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## Original Communications.



### ALVEOLAR ABSCESS.

BY DR. J. L. NOURSE.

Read before the Central States Dental Association, July, 1866.

ABSCESS is a term derived from the Latin. "Ab," from, or away, and "Cedo," to go, to separate, or give up, and literally means the separation or yielding up of a part or principle that is to go out or be expelled, and in a general sense is applied to those pathological productions within the body, which are characterized by a separation and disorganization of a portion of the tissues, and the production and expulsion of offensive, purulent substance; but in a more limited and proper sense it is used to designate that particular form of the disease, which, usually situated within the fascia of some organ, is mainly dependent upon persistent local irritation, and sthenic or circumscribed inflammation for its production and continuance; and to distinguish it alike from simple phlegmon, or common boils, pimples, &c., which are naturally developed in the soft tissues, and are indio-pathic in their character on the one hand; and, on the other, from ulcers.

By Alveolar Abscess, then, we are to understand a condition of suppuration within or upon the alveolar process, and



having for its seat the periosteum of the alveolus, or the peridental membrane of a tooth. In order to fully comprehend the nature and character of an abscess, it will be necessary to examine, somewhat minutely, not only the immediate and remote causes upon which it depends, but also the physical characteristics of the parts most intimately concerned in its production, and some of the more important changes which take place during the progress of its formation.

Suppuration, as usually met with in alveolar, and all similar abscesses, in healthy subjects, is immediately dependant upon inflammation, or rather is one of the progressive stages of traumatic inflammation, in which important changes are effected in the blood and blood vessels, consequent upon a depressed state of vitality produced by local irritation. Whatever tends to produce this depression of vitality within the alveolar periosteum, whether by mechanical or chemical means, may be regarded as remote causes of alveolar abscess. Among these may be enumerated, contusion, such as might be produced by undue pressure upon a tooth; the presence of necrosed roots of teeth or other obnoxious foreign bodies; the introduction of acids, or other corrosive agents that destroy the tissues, or the infiltration of poisonous gases, such as are engendered by the putrefaction of a devitalized pulp. This last is, by far the most common.

As blood is the substance most intimately concerned in the formation of abscess and from which the materials are chiefly derived, and as the capillaries are the medium through which the necessary changes are effected, I propose, in the first place, to notice, as briefly as possible, some of the characteristics of these vessels, and also of those portions of the blood most actively engaged in the process, and to trace the most important changes that occur from the departure of the parts from a normal condition to the full development of an active abscess.

The capillaries, though but the continuation of the minute extremities of the arteries, from which they arise by a gradual

and almost imperceptible transition, and as gradually merge again into the venous system, are justly entitled to the rank of a distinct system in view of the important differences which exist between their structure and functions, and those of the radical branches.

By their intricate ramifications, and repeated and innumerable anastomoses, they form an exceedingly delicate, continuous and uniform network which pervades every part of the organic structure; and thus enables these vessels to perform one of their important offices—that of conveying within reach of every particle of animal tissue, its necessary amount of nourishment, and also the materials for reproducing any portion that may have been accidentally destroyed.

As it is through the capillaries alone that the great process of nutrition is effected, they are provided with walls peculiarly adapted to the discharge of this important function. While the walls of the arteries are thick, strong, and perfectly impervious, those of the capillaries are extremely thin and elastic, and are endowed with a peculiar secreting power, by which the pabulum necessary for the nourishment of the part is taken up and prepared from the blood, and transmitted through them, to be assimilated into the tissue without. They are also endowed with a high degree of sensibility, by means of a liberal supply of delicate nerve branches, which enables them to respond promptly to the influence of the least stimulation, and, like the arteries, possess a strong contractile power, which materially affects the movements of the blood, and an impairment of which gives rise to those morbid changes which constitute that pathological condition known as inflammation.

Healthy blood consists of a thin, nearly colorless fluid, called *Liquor Sanguinis*; in which float freely a large number of red globules or corpuscles, together with a comparatively small number of white corpuscles.

The liquor sanguinis, or serum, is composed chiefly of

water, albumen, fibrin, various salts, especially those of sodium and potassium, with fatty, extractive, and other matters. Of these, albumen and fibrin will claim our special attention.

Albumen is a whitish, nearly transparent substance, which, though it does not spontaneously coagulate, forms, in combination with certain agents, an insoluble compound, a property which we are enabled to turn to valuable account in the treatment of abscess. It is the raw material, so to speak, out of which much of the fibrin, and many other substances are elaborated. It exists in the blood, in a state of perfect solution, and is carried to all parts of the system by the circulation, and is taken up and appropriated wherever it may be required in the process of nutrition.

Fibrin, in healthy blood, moving in healthy vessels, is, like the albumen, in a state of perfect solution, and though it differs but slightly from the latter substance in its chemical composition, it is a step further advanced in the scale of vitality, and is far more perfectly prepared for conversion into organized tissue, and supplies, directly, a large portion of whatever is required for replenishing the natural waste, and for reproducing lost portions of nearly all the solid parts of the body.

It possesses the remarkable property of spontaneously coagulating, or passing from a fluid to a solid state, thus forming a fibrous structure which, under favorable circumstances, becomes the basis of living, organized tissue. It is exceedingly sensitive to the least excitement that may occur in the capillaries through which it may be passing; and any irritation in the vicinity of these vessels, whether chemical or mechanical, sufficient to endanger the vitality of a part, is the signal for the manifestation of its peculiar powers.

The presence of any irritating, or injurious principle being communicated to the walls of the capillaries by the nervous filaments which accompany them, a specific action is produced within their substance, which rapidly extends to the

arteries. The contractile power of these vessels is at first stimulated into increased activity, by which the force of the circulation is considerably increased, and a more rapid flow of blood to the affected part produced.

This increase of the circulation, or determination of the blood, marks the first stage in the progress of inflammation.

The fibrin of the blood coming in contact with the excited walls of the capillaries, is arrested in its progress, seizes upon and assimilates to itself a portion of the albumen, by which means its quantity is largely increased, an irregular relaxation soon takes place in the blood vessels, portions of which swell out into pouches, admitting a larger amount of blood, and, at the same time, retarding its passage through them, the blood corpuscles accumulate and pack upon each other within the contracted portions of the capillaries, still further impeding the circulation, and finally, if the irritation is continued with sufficient violence, producing complete stagnation, or stasis.

This engorgement, or congestion, is the second stage in the progress of inflammation toward the formation of an abscess.

In the mean time the walls of the capillaries appear to have taken on exalted functional activity, and have elaborated from the liquor sanguinis a peculiar fibrinous fluid, called plastic, or coagulable lymph, which exudes, or is poured into the *æreola*, or other surrounding tissue, with a view to repair any injury the parts may have sustained, thus distending these tissues more or less, according to the violence of the irritation, and the density of the part affected, and producing the *œdema* or swelling which usually accompanies inflammation.

The periosteum of the teeth being confined within narrow limits, by the bony walls of the alveolus on one side, and the tooth on the other, admits of but little distension, and the pressure thus produced slightly elevates the tooth in its socket, and occasions severe, heavy, deepseated pain. This condition of the parts is known as *acute periostitis*.

The lymph thus exuded is a thin, transparent, and ex-



tremely viscid substance, capable of being drawn out into long, thin filaments, and consist of a thin serum, which contains a great number of globules, commonly called exudation corpuscles, and pervaded by exceedingly minute granules. The serum, like the liquor sanguinis, contains water, albumen, fibrin, &c. This lymph is not merely a transfusion of the serum of the blood consequent upon an excessive distension of the blood vessels, nor an effort of nature to simply relieve them of the unnatural pressure upon their walls, but is essentially a *secretion*, elaborated from the blood by a definite process of development, by which the fibrin itself has undergone a higher elevation, is still further advanced in the scale of vitality, and is now fully prepared to perform its important office of repairing an old or injured tissue, or producing a new one.

The first efforts of the lymph, after its infiltration into the inflamed periosteum of a tooth, is to so fortify and strengthen this tissue as to enable it to withstand the influence of the irritating agent, and to build up a barrier by which to circumscribe its destructive action. This it does by depositing within its substance an additional amount of newly organized material, thus increasing the density of the structure, and its power of resistance.

But the irritation continuing with sufficient violence to overcome and completely depress the vitality of the tissue, that particle most immediately within the influence of the destructive agent, and over which the vital forces have least power, gradually dies and disintegrates, and, at the same time, gives rise to a similar change in the effused lymph—a process by which fibrin loses its coagulating power, and is converted from a plastic, or organizable substance, to an aplastic or unorganizable one.

This change, thus effected, constitutes suppuration, and is the fourth stage of inflammatory action.

By this process a new substance is generated called pus, which is a thick, creamy, yellowish white, opaque, neutral



fluid, free from smell, and is said to have a "sweetish mawkish taste, and consists of a thin serum called *liquor puris*, in which float a vast number of pus corpuscles. Its specific gravity is from 1,02 to 1,04, and analysis shows it to contain water, fat, albumen, and extractive matter, with a small per cent. of salts. The pus corpuscles, when examined under the microscope, are found to be smooth, opaque, spherical globules, measuring from 1-5000 to 1-2000 of an inch in diameter, or even larger, and are nearly indetical with the white corpuscles of the blood, and the lymph corpuscles of the chyle, from which they can be distinguished only by the two, three or four central nuclei, which may be seen when they are rendered transparent by the action of acetic acid.

The matter thus produced forms a center, or nucleus, from which the disorganizing process extends to the adjoining particles, which, in turn, are broken down and transformed into pus. In this way a portion of the periosteum of the tooth is destroyed, denuding that part of the root, thereby depriving it of this, probably its only remaining source of nutrition, and rendering it still more obnoxious to the system. Meantime, the surrounding tissue which is less inflamed, and in which the vitality is impaired but not destroyed, becomes so consolidated, by the deposition of newly organized matter, as to form a wall or sack, and thus prevent the infiltration of the pus into its substance, and so, in a measure, retard the progress of this destructive process.

This sack, when its formation is completed, with its contents, is an **ALVEOLAR ABSCESS**.

It continues to gradually advance however, in that direction which offers the least resistance, or seems most favorable to its extension, until an opening is formed into some natural cavity, or upon some free surface, through which the accumulated matter may be discharged. The root of the tooth being dense in structure, and not easily broken down, its progress in this direction is slow; the periosteum being strongly fortified, is enabled to withstand, to some extent,

its encroachments, and generally rallies sufficiently to prevent its extension far into its substance; the alveolus, being soft and porous, more readily succumbs to its attacks, and affords a more ready transit, and consequently, instead of advancing through the body of the tooth, or following the periosteum to the margin of the gum, its course is most commonly through the process, to the nearest external surface, thus forming a fistulous channel through which the discharge may be kept up indefinitely, or until the irritating cause is removed, or so far allayed that the vital forces are enabled to overcome and control it sufficiently to permit the parts to perform their normal functions.

The eruption of the abscess is usually followed by a partial subsidence of the inflammation, the capillaries recover their contractile power, and the circulation of the blood is resumed. Within the body of the abscess, however, the morbid condition still exists, and although its dimensions are not afterwards materially increased, the albumen which still exudes from the capillaries, and which the fibrin is unable to appropriate, is rapidly assimilated into pus, which again accumulates, and is again discharged, thus constituting a *chronic abscess*.

The nature and *modus operandi* of the formation of an abscess being clearly understood, the condition necessary to be secured to effect a cure may be readily recognized. These, together with the means by which they may be obtained, may be comprehended in a few general principles.

The first is the removal of the existing cause. If this is a tooth whose fang has been so far deprived of its investing membrane, and consequently of its vitality, as to render its presence obnoxious to the living parts, there should be no hesitation in deciding upon its immediate extraction.

If, however, the irritation is dependant upon changes which are yet taking place within the pulp cavity, and it is desirable to preserve the tooth, a free opening should be made into the cavity, by which access may be had to all its parts, and every

particle of dead or decomposing matter removed from its entire length, and the foramen at the apex of the root enlarged sufficiently to afford access to the interior of the sack.

The second condition to be secured is a healthy action within the walls of the sack and the fistulous channel of the abscess, or, according to Hunter, "adhesive inflammation."

This is effected by relieving the sack of its purulent contents, and introducing some therapeutic agent that, by uniting with the superabundant albumen, will arrest the suppurative process, and promote the organization of the lymph.

Among the articles used for this purpose may be mentioned—Tanic Acid, Nitrate of Silver, Iodine, and Creosote.

Tanic acid forms a very permanent compound with albumen, but its action is too slow; and the difficulty of introducing it in a concentrated form too great to meet the requirements of many cases.

Nitrate of silver unites with albumen, but the compound is not so permanent, and the powerful caustic properties of the nitric acid, liberated in the process, somewhat impairs its usefulness.

Iodine is very useful in many cases; but its escharotic properties, and the rapidity with which it is absorbed, are somewhat objectionable; combined with creosote it is a valuable agent.

Creosote, in addition to its strong affinity for albumen, with which it rapidly forms a permanent, insoluble compound, possesses the valuable property of arresting and preventing the decomposition of animal matter, which renders it preferable to any other agent that has hitherto been introduced for the treatment of abscess. Its great penetrating power enables it to pervade every part of the cavity, and to diffuse itself over the entire surface of the sack, thus effectually securing the desired result. It is also an active stimulant, which still further enhances its value. It may be readily introduced by injecting into the fistulous opening, or through the pulp cavity of the tooth—the latter is usually the more

convenient and better way—this should be repeated from time to time, until the symptoms indicate the healthy action desired.

The third condition to be brought about, and which naturally follows when the preceding one is established, is the restoration of the part destroyed, and the absorption of the sack.

This is readily effected by the recuperative powers of nature, aided by such stimulation as is afforded by the agent injected.

The albumen being coagulated upon the internal surface of the sack, is prevented from further conversion into pus, and forms a protecting coat, beneath which the fibrin spontaneously coagulates into fibrous loops, in which the granules arrange themselves, by their own vital impulses, into groups of nuclei, which are rapidly converted into cells. Into this structure blood vessels and nerve filaments are projected from the neighboring branches, thus completing its organization. This process is continued until the cavity occupied by the abscess, external to the root of the tooth, is filled with living, healthy tissue.

The fourth and last condition to be secured is one in which all liability to a recurrence of the disease will be, as far as possible, prevented, and simply consists in so thoroughly filling the canal and pulp cavity of the tooth with some suitable material as to perfectly exclude all exciting or irritating agents.

These conditions, successively obtained, will afford a good foundation on which to base a hope of a permanent cure.

Although, as before stated, abscesses are mainly dependent upon local causes for their production, and may appear whenever the conditions necessary for their formation are fulfilled, there are certain conditions of the system, in general, which seem peculiarly favorable to their development, and which materially retard the progress of their cure, and increase the liability of their recurrence.

When an abscess occurs in a healthy subject, the depression of vitality and abnormal condition of the blood are confined to the point of local irritation. The prognosis in this case is highly favorable, and the local treatment just indicated will generally prove successful in subduing it and restoring the parts to perfect health. But we frequently meet with cases in which the blood is in a low, morbid, deteriorated condition, consequent upon impaired or vitiated nutrition, imperfect assimilation, inhalation of impure air, epidemic influences, or upon some peculiar, depressing diathesis.

In this condition of the blood, there is a decidedly increased tendency to purulent transformation, which is likely to be developed by very slight local irritation, and its activity will vary according to the nature and degree of the departure of the blood from its normal condition. If this departure is occasioned only by a temporary derangement of the nutritive process, or by miasmatic, or epidemic influences, an effort is usually made to purify itself by means of boils, and a slight morbid excitement in the periosteum which would otherwise produce but a mild form of periostitis, now degenerates into an active abscess, and hence, not only the frequency of its occurrence, but the difficulty of subduing it, and the liability of its recurrence are greatly increased, and in addition to the usual local treatment, the employment of such therapeutic agents and such regimen as is best calculated to restore the blood to a healthy condition, is clearly indicated.

But when this deterioration of the blood is occasioned by some depressing diathesis, as the scrofulous or syphilitic, the purulent formation sometimes approaches an ulcerative, or gangrenous character, according to the nature and activity of the constitutional disease. When alveolar abscess occurs in a subject thus tainted, the prognosis is extremely unfavorable, and, in the language of Prof. Harris, "the only treatment that can be successful is preventive rather than curative, for the latter, to be successful, calls for the loss of the



offending tooth. Another condition of the system, worthy of consideration in this connection, is that very common, but somewhat obscure one, frequently produced by sudden thermal and other changes in the atmosphere (and sometimes most unaccountable), by that mysterious process so appropriately expressed by that unmeaning phrase, "Catching Cold."

Very little is really known of the precise nature of the pathological changes that take place, or the manner in which they are effected; but it is quite evident that in consequence of the disturbance in the animal heat, there is a depression of the vital forces and a relaxed condition of the system—states highly favorable to the production of inflammation and purulent transformation. It is also quite certain that it exerts a very unfavorable influence in the treatment of abscess. The symptoms are more or less aggravated, and the best efforts to so effect a cure are often baffled; and while we are yet congratulating ourselves upon the completion of a successful operation, an unfavorable change in the weather, or a sudden bad cold, will sometimes arouse into renewed activity the subdued inflammation, and snatch from us the triumphs of our fancied victory.

These facts would seem to indicate that the state of the weather should not be wholly disregarded, and that we may sometimes profitably postpone the completion of an operation until the barometer indicates a favorable condition of the atmosphere, and it would be well also, to caution a patient against any unnecessary exposure, and to avoid, as much as possible, all liability to "take cold" until the parts have had time to recover health and strength sufficient to withstand its depressing influence.

In conclusion, I will only add that the great and constantly increasing prevalence of this destructive disease, calls for renewed diligence in the study of its nature and treatment, and the free and liberal diffusion of all the light afforded by science to illuminate our pathway to the achievement of more completeness in its management.

## DENTAL CARIES, HYGIENICALLY CONSIDERED.

BY DR. J. P. H. BROWN, AUGUSTA, GA.

THE treatment of dental caries is unquestionably the pivotal point of Dental Science. To arrest the ravages of decay has always engrossed the attention of the best minds in the profession. And if we consider the subject in a mechanical light, great results have been achieved. Fillings are now inserted which are, for impermeability, solidity and finish, everything that can be desired. And the file, though often abused, has been, no doubt, used judiciously and effectively. To say that such operations upon the teeth do not check and arrest decay, is to make the assertion of an ignoramus.

All these mechanical processes are well and proper, as far as they go, in retarding the progress of decay. The only fault to find is, that they grapple with the effects, to the neglect of a due consideration of the causes of caries. But can any one say that these causes are clearly determined? If the pathology of decay be clearly understood, then why is it that we have so many theories advanced for its solution? Thus we have one hypothesis that makes it no disease at all, but purely the result of chemical decomposition, and dependent upon the operation of chemical laws for its origin and progress; while another makes it a *chemico vital* process. One English writer, Mr. Bridgeman, has advanced a very ingenious theory, showing that it is the result of "electro-voltaic" action going on within the tissues of the tooth; while Mr. C. Spence Bate contends that the active agent of solution is carbonic acid generated in immediate contact with the salts of the tooth which it dissolves. These hypotheses are maintained by men equally eminent in the profession, and equally conversant with the true histological character of the Dental tissues.

It is not my purpose in the present article to take sides

or issue with any of the above theories; nor do I wish to advance any pet notion of my own, nor do I expect to put forth anything which is not already known; but only to offer a few thoughts which may possibly lead others to observe, investigate and note. Our great specialty of Dentistry being still in its infancy, the most of us are yet students, though we have years of experience.

Actiologically speaking, the causes of decay may be divided into two kinds, viz.: exciting, and predisposing or constitutional. That the first are pretty well understood may be attested by the practice of every faithful operator. But in regard to the second, it is very evident that their pathology is not so clear; and to these I purpose confining myself in the present paper.

What I understand by predisposing or constitutional causes of caries are those defects in the structure of the Dental tissues, which seem to be a want of a proper proportion between the animal and earthy elements; whereby the tooth has but little power to resist the action of those chemical agents which come in contact with it. And, furthermore, as the weak *physique* of these tissues is the result of mal-assimilation, a careful study of those influences and conditions which impair this function is of the greatest importance.

Defective power to assimilate healthy tooth structure is as transmissible from parent to child as any other weak organ or faculty. This can be seen every day in any ordinary practice. Children are often found with teeth resembling some parent, not only in shape, but also in the locality and peculiarity of the decay. The writer has met with a case where the right lateral incisor was wanting, and the same tooth was not only deficient in the mother but also in the maternal grandfather. He also knows of a family whose several members never had any teeth, and the edentulous jaw can be traced back through several generations. Dr. Fitch, in his *System of Dental Surgery*, relates a similar case.

Disease of nearly every kind in the parent, operates to produce in the child mal-assimilation of the elements of the dental tissues, and consequently constitutional degeneracy of the dental organs. Dyspepsia, rheumatism, and particularly the *exanthematous* and *impetiginous* diseases seem to be the most active in disordering this function. Of the latter type I regard syphilis as prominent in stamping its baneful effects upon the teeth. It has been shown by Mr. Hutchinson, and other pathological observers, that this insidious disease has the power of smouldering in the system from generation to generation, and giving to the teeth a peculiar formation as well as a vitiated texture. This writer remarks: "Although the temporary teeth often, indeed usually, present some peculiarities in syphilitic children, of which a trained observer may avail himself, yet they show nothing which I dare describe as worthy of general reliance. The *central upper incisors of the second set are the test teeth*, and the surgeon not thoroughly conversant with the various and very common forms of dental mal-formation will avoid much risk of error if he restricts his attention to this pair. In syphilitic patients these teeth are usually short and narrow, with a broad vertical notch in their edges, and the corners rounded off. Horizontal notches or furrows are often seen, but they, as a rule, have nothing to do with syphilis. If the question be put, are teeth of the type described pathognomonic of hereditary taint? I answer unreservedly, that when well characterized, I believe they are. I have met with many cases in which the type in question was so slightly marked that it served only to suggest suspicion, and by no means to remove doubt, but I have never seen it well characterized without having reason to believe that the inference to which it pointed was well founded."\*

The teeth are governed, in proportion to their vitality, by

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\* A Clinical Memoir on Certain Diseases of the Eye and Ear, consequent on Inherited Syphilis. London. 1863.



the laws of disintegration and reparation, like any other portion of the system. This explains why the teeth of many females, after marriage, decay so rapidly. They enter the marriage relations with so little life-power that, when they become pregnant, they have not sufficient vitality to appropriate to the tooth-germs of the foetus enough of the inorganic elements from the food to form healthy dental tissue. In such cases the demands of the foetus upon the mother for the phosphate of lime, leaving her osseous system in a weak condition. The teeth also furnish their quota of lime, but as their power of reparation is very feeble in comparison to the more vitalized structure of bone, they are left constitutionally depraved, and illy prepared to resist the chemical action of the vitiated secretions of the mouth. Hence it is that the offspring of such mothers have teeth of so frail a quality, that the best and most skillful operations upon them can prove of only temporary benefit.

In the treatment of such cases I have more faith in a correct observance of the hygienic agents, and in the application of those means tending to improve and invigorate the general system, than in the administration of such remedies as phosphate of lime. It is the opinion of the writer that the trouble is not so much owing to a deficiency of the lime salts in the food, as it is to a *want of sufficient power, in the mother or child, to assimilate the necessary constituents of a well organized tooth.*

There can be no doubt that our food, as it is now prepared by what is termed the *science* of modern cookery, is not only poorly fitted to keep our organs of digestion in a healthy and normal condition, but it is also inadequate to supply our teeth with that exercise in mastication which is indispensable to their health. Teeth on the side of the mouth that is not used, or those that have lost their antagonists, soon become foul, decayed, and diseased in their sockets. Whereas we often find decay arrested by exercise, as for instance, in a broad but shallow cavity on the grinding surface of a molar.



And by those inexplicable and wonderful laws of hereditary descent, the impaired constitution of these non-exercised teeth, in the mouth of the parent, is liable to be impressed upon the denture of the offspring.

The influence of plain and coarse diet, and out-door exercise, in promoting healthy organs of mastication, can be seen in the negroes in the South, by comparing the sound teeth of field hands with the decayed teeth of house-servants, who eat of the same food that the whites do. The same can be seen in the peasantry of Europe. They eat plain and wholesome food, take plenty of exercise, and generally have sound teeth well arranged in finely developed arches. But when you get into the large cities where the living is more artificial, and the food highly seasoned and stimulating, the teeth are as badly decayed as they are in our own country.



## INQUIRY AND ANSWER.

EDITORS OF DENTAL REGISTER:—I heard that the funniest thing that occurred at the Boston meeting was something about a dog. Not having patience to wait for the official report, I have studied that of the "*Dental Cosmos*," to find what constituted the fun, and suppose this is it: (See September "*Cosmos*," page 83):

"Dr. Watt said that periodontal inflammation could nearly always be relieved by a mild course of iodide of potassium. In local effect potassium was pretty nearly nothing as compared with iodine; but chain the two together and they worked powerfully. Iodine by itself will act locally; potassium alone resolves itself into potassa, by its union with oxygen. He compared these agents to two fierce dogs let into the covert among the game, one would seize his prey and hold on to it, while his fellow performed the office of dragging out to the hunter."

I suppose that is the funny thing referred to; if not, I hope the Association will not be "as funny as it can." Fierce dogs those are, and *stout* ones too, when one can hold the game *in* the thicket, *while* the other drags it *out*. Verily that is funny enough, and all the more so when said by Dr. Watt who was born in the woods "with the spotted fawn," where the red deer grazed, and the red man's track was not yet washed out of the soil—said by Dr. Watt whose boyhood was sung to sleep by the baying of hounds, and the brown wolf's howl, and wakened by the shrieks of the screech owl and the noisy courtships of the wild turkey gobbler. Raised thus, and talk so about dogs!

But the chemistry (?) of this is as curious as the dogs. "Chain the two together and they worked powerfully"—that is, iodine and potassium. Now, if my memory is not treacherous, Dr. W. used to tell us in the old college, and the Miss. Valley Association, that iodide of potassium does not work "powerfully," but that locally it is nearly inert, and exerts its influence on the constitution by being decomposed, its elements being thus liberated to act in accordance with their affinities. Am I right?

This may not be the amusing affair referred too, but as it afforded me a good laugh I was satisfied.

QUILL.

ANSWER.

QUILL's memory is pretty good; and his criticisms are not without basis. Reporters do not always catch the idea of the speaker; and in our profession chemical remarks are usually left out or misreported without the slightest wrong intention on the part of any one. The following is nearly the "Oral Communication" referred to, and it will be observed that it was on neuralgia, and not on "Periodontal Inflammation."

DR. WATT said, "I do not believe we have time to spend

in correcting misapprehensions. If the gentleman insists that there are ignorant dentists, I will come into the ring and show a specimen. Let us go into science. I suppose that neuralgia comes under the head of pathology; I do not know whether the Committee reported on it or not. I presume that the dentists and physicians fail very many times for want of a correct diagnosis of the cause of neuralgia, which is often very obscure. Suppose a ligature were placed around a nerve trunk and suddenly drawn so tight as to cut off all communication. The subject would feel a sudden thrill of pain, and then a numbness—would feel at the time, and afterward, as if the nerve trunk had been severed. But if drawn only so tight as to prevent the free action of the nerves, but not to cut off all communication, there would be intense pain felt at their sentient extremities.

If a surgeon or a dentist has charge of a case of *tic-doloureux*, he will probably take for granted that there is bony pressure on the nerve trunk, and that it is scarcely amenable to treatment. I think that in a great majority of cases there is no such pressure by long deposits, but by thickening of the investing membrane, or of the periosteum that lines the long canal. Such cases are certainly amenable to treatment. Many, in such cases extract teeth, give quinine, calomel, and finally get quit of a troublesome patient by sending him to a watering place. Such cases can nearly always be relieved by a course of iodide of potassium. This is a neutral salt. Its elements have each strong affinities for certain constituents of living tissue, but the salt, as such, has almost no such affinity.

The action of this salt may be illustrated by a common practice of Western hunters. They chain two dogs together till they get to the woods, and then let them loose to start the game. Their powers are not exhausted by previous rambling. So we may chain the iodine and the potassium together and start them into the blood. They do not then cause much local action—are as tame as the chained dogs.

But if we would start the iodine by itself, we would not get much of it into the blood, because it would combine with organic tissues by the way. And potassium by itself would form potassa, by combining with oxygen, and would spend its force in local action. But combine them and they form a salt that can go wherever the blood can go—even where the blood corpuscles can not go. Being neutral and highly soluble, it is readily carried throughout the system; and when there it is gradually decomposed, in obedience to stronger affinities than those holding its elements together. The iodine finds something it likes better than the potassium, and combines with it; and the potassium, without going into mourning, marries oxygen, forming potassa, which is a solvent of all organic tissues. The potassa holding the morbid product in solution, and the iodine combining with them (they being in a more favorable state for chemical action than healthy tissues), they are carried out of the organism by the various excretories. When the morbid matter is all carried away the disease is cured.

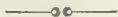
The illustration of the chained dogs may be carried still further. They get fretted and angry at the restraint, and when released, revenge themselves on the game. That is the case with these elements. It is a chemical fact that when any substance is set free from combination it acts with greatly increased energy. So when the iodine reaches the point desired, and is there decomposed, its elements in their nascent condition (like the excited condition of the dogs), act with this increased energy on whatever offers the least resistance. The vitality of morbid tissues being below that of normal ones, offers less resistance to chemical action, and hence they are overcome while the others remain. Of course this is not the real state of the facts, as chemical and vital actions differ; but the dog illustration is given to assist your memories. The potassa uncovers the game, the iodine seizes it (that is, combines with it), and the various excretories carry it out of the system. I have not tested the perspiration

to find whether iodine comes out through the pores of the skin, but I have detected it in the saliva and the secretion of the Schneiderian membrane.

Now my opinion is that when you find a persistent and troublesome case of facial neuralgia, and do not find diseased teeth to explain it, and even if you do, but fail to give relief by treating the teeth, you may suspect pressure on the nerve trunk; and as in but few cases the pressure will result from ossific deposit, relief may be obtained by a course of the iodide, say six to ten grains three times a day.

This is nearly the substance of the remarks referred to, of which "Quill's" quotation is an unintentional caricature. It was made from memory and a small pencil sketch set down as a memorandum while at Boston. Since it was written, I have had, through the kindness of Dr. Shepard, an opportunity to see a copy of the official report of it, and as there is no serious discrepancy, I have concluded to insert it here, for the satisfaction of my friend "Quill," and any others who may wish to see it. To be misreported is a small affair personally considered; but if the speaker has any influence, some might be led into error, which would be a serious matter. Abbreviated reporting is a very difficult task; but when the reporter entirely fails to catch the idea of the speaker, and doesn't understand the subject himself, he should simply hold his pencil till a clear place is reached.

W.



## AN ADDRESS.

BY G. A. MILLS.

Read before the Brooklyn Dental Association, October 31, 1866.

MR. PRESIDENT AND GENTLEMEN:—You have assigned to me a subject, be it rightly delineated, I feel that I am wholly unable to master, and yet I may be able to present some thoughts for the consideration of the evening that will awaken new and valuable reflections, that we may carry out



with us into the unknown future of our professional lives, and as we ascend the high hill of progression in the distant day (we may), *some one of us*, look down from the dizzy heights, which, step by step, we have gained, and rejoice that our lines were drawn in such pleasant places, that we have had so goodly a heritage as the Brooklyn Dental Association. Week after week, month after month, and year after year, has found us a band of brothers, faithful (in the main), to the trust that has been committed to us; uniting, and reuniting, those through kind bonds of brotherly love, casting our bread upon the waters in sanguine hopes to gather after many days, adding from time to time new accessions to our works until now, and to-night we *can* boast with holy pride of as worthy a prestige as any Dental Association of our much loved America. Now my brothers, with this escutcheon of fair fame, we are called to discuss the subject of Dental Ethics. What does the term mean? Ethics is the *science of duty*. *Science is knowledge*. Knowledge is clear perception. Now here, Dental Ethics, means (as applied to our profession), a clear perception of duty—to our patients—to each other—to ourselves and to God, and then let me say, it is not in our power to do our whole duty, as referred to above, if we do not recognize our obligations to the giver of all things. Man (and of course the Dentist), left to himself is influenced by a great variety of motives, aside from right, viz.: love of money, reputation, &c., &c. There are “many men of many minds, many men of many kinds,” and, therefore, many reasons (so called), for many Dentists doing as *they do*, and it will be claimed, that it is impossible to bind all to a code of laws. We are living in a time when the line of right is being more closely drawn toward the center of justice; and happy is that man who does not look through a glass darkly. How often the beauty of a sunset is hid from our vision by a dark and frowning cloud, we get glimpses of its glory out on its edge. With our profession, it has had a life of struggle, far back in the past some

earnest soul caught glimpses of its future, and induced by the love of duty, sowed the seed in faith, and though cast about in the sturdy ship of progression, sometimes in winds, then for a time in calm, resting to trim its sails to gather fresh breezes and thus pressing it on with new hopes of reaching new fields wherein to sow fresher seeds and gather new fruits, the products, always, of the persistent labor of love, and behold to-night the fellowship of many tempests, her streamers of victory floating out from many a masthead, with many of her weather-beaten commanders still at the helm, giving a "certain sound" in command, surrounded by as brave a crew as the world ever saw. Is there one of us *now* that will forsake his post and turn back? No, no, let us from this time and forever buckle on more closely the insignia of our profession, take upon our lips and place upon the crests of our hearts, that brilliant watch-word, *duty*. Yes, *duty* everywhere, duty under all circumstances, cost what it may. Let us no longer be stimulated by that slimy lizzard of avarice, nor drink from that unsatisfying and uncertain fountain, *reputation*. But go from this place fixed in our determination, that the cases committed to our care henceforth and forever, *shall* receive from us our whole ability, dealt out in kindness, be they simple or complicated in their nature, daring not to trifle with those temples (indwellings of the ever-living soul). Whatever our hands find to do, let us do it with our might. Our *duty* is a specialty, and those patients that commit themselves to our care, are not in the aggregate, supposed to be familiar with the knowledge we *should* possess, therefore let us make no assumptions, but simply and purely, with a fervent desire to rightly instruct, to affiliate the confidence of each other, seeking unity, for "in union there is strength." This gained, a great point is gained toward the end sought. Prove to them the difference between *guessing* and *knowing*, in this you *will* have your reward. That we may always be ready to give a reason for the opinion we offer, or the diagnosis we make, it is absolutely

necessary that we should have our bodies in keeping with the truth, thus we must be free from all those contaminating habits that *war* against the flesh, and necessarily weaken the intellect, misguide the motive power of our hands, and the *ideal*, we should desire, being first conceived in the mind, then wrought out by the fingers, we are in after life compelled to look with shame upon the wretched results of our labors. Do we ask, is it I? I answer, who of us is free? Let *love* be ever the mainspring of our motives, putting forth every effort to remove the *debris*, always found along the banks of every stream; for that which is worthless or weak, with no energy to guide, more often seeks the still and shallow water, and yet there are many who are found out in the swift current willing to risk their *puny lives* to gain a *hollow name*, often secured at the expense of their neighbors. by their valuable contributions, scattered wide and free, and seizing, as they do, from time to time, those little episodes of light, they venture out to the calm and placid waters of ease, and float here and there, and then with lazy flight seeking more comfort they cautiously alight like the crow; feast hurriedly upon the *scattered* and *growing seed*, and at the approach of him who sows, he hastily bestirs himself to gather his worthless carcase, flaps his wings away to yonder tree, sits and *caws*, as though he was some proud monarch of his time. Do we miss him by anything he has done? He simply leaves behind a few shapeless scratches, and we are told that he has departed. There are those who are weak and feel themselves to be so, to such we should always lend a helping hand, for, "as the twig is bent, the tree is inclined."

In our department let us show ourselves exemplary in all our dealings. By experience may we beget patience, which is a princely virtue to be possessed by us. It is said, "he that maketh haste to be rich is not just." How often do we see this truth vindicated by the advertisements of various kinds resorted to by members of our profession, giving

guarantees which is not in the power of man to fulfill. Purchasing the good will of this and that M.D. and D.D., putting them (after) under the unrighteous obligation of saying that Dr. so and so is the finest Dentist in the land. When he is often known to be far from being any such thing. By this, progress is often hindered. If you know your ability, assert, and leave no stone unturned to prove it, for by your fruits you will be known; vindicate your professional brother as far as he is right, and should you be inquired of, regarding his claims for compensation for services rendered, act well your part. Are you familiar with his standard of character and practice. You are able to be true to your duty. You need not err, gentlemen, this precious word *duty* interweaves itself so tenaciously into all the intricacies of our daily life, we need to cherish it as a sweet morsel under the tongue. Follow its blessed teachings, and *all* these various evils we are called to denounce, by the adoption of the code of Ethics which is to be presented to you by the American Dental Association, will eradicate all necessities of this. Feeling that I may have already trespassed upon the time of our meeting, I leave the subject for your further consideration.

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## DENTAL NOMENCLATURE.

HAVING for a long time felt the want of some words in our literature to express Pathological and other conditions of the Dental organs, I have *manufactured* a few, which I think may be used with much convenience. I know that more or less of them, as indeed all of them are open to criticism; and in truth no new words ought to be adopted by the profession without discussion, and I shall therefore expect and wish it. In fact, if the *introduction* of these words to the profession shall have the effect to introduce other and better words which shall be adopted, I shall be more gratified than with the adoption of the following:

Exodontosis.—Dental Exastosis.

Dentalgia.—Toothache, Odontalgia.

Dentinitis.—Inflammation of Dentine.

Dentinalgia.—Pain in the Dentine.

Dentology.— } Discourse about the Teeth.  
                   } History of the Teeth.

Dentography.—Description of the Teeth.

Pulpitis.—Inflammation of the Dental Pulp.

Pulpalgia.—Pain in the Dental Pulp.

Peri-cementum.—Alveola-dental Periosteum.

Peri-cementitis.—Inflammation of the above.

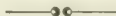
Peri-cementalgia.—Pain in the Dental Periosteum.

HENRY S. CHASE.

IOWA CITY, Nov., 1866.

REMARKS:—The above may strike some of our readers as a step in the right direction. As a general rule, however, we have far too many big words. What would be gained by the adoption of most of these words? Take for example "pulpitis." Is inflammation of the pulp different from that of similar tissues in other situations? If not, the new term only confuses. Inflammation of the stomach is a much more satisfactory term than *gastritis*, as is proved by its being far more frequently used. But it may be well enough for the Dental profession to show that we can use as big words as anybody.

W.



## THE USE OF THE FILE IN DENTISTRY.

Read before the Society of Dental Surgeons of New York, December 19, 1866.

BY W. H. ATKINSON.

AUTOSCHEDIASTICAL as have been the efforts at original instruction in our specialty, yet we owe more to these "off-hand efforts" of earnest minds than to all the labored and belabored scholastic and pseudo scientific works of the mere copyists of the crudities in the principles and practice of the



pioneers in our specialty. Many good things have been laid aside and many wretched ones sedulously preserved only to occupy space that should be left empty or filled with better things. The misuse of a good instrument may bring it into disrepute. This has been the case with the Dental File to an extent exceeding that of any other instrument or appliance ever used in Dentistry.

In certain classes of teeth the file, in judicious hands and faithfully used, is capable of saving them without any other instrument except stones and polishers to smooth the cut surfaces down to a fine finish, so that the brush and tooth pick can keep them so through life, there is scarcely an example of a Dentist who uniformly uses the file *sufficiently* in preparing and finishing cavities before and after filling.

No *corners* should be left by the file, but regularly rounded margins like the corners of the uninjured tooth should be preserved on all surfaces worked upon.

Filing cannot be safely performed with a coarse file and slow motion; fine cut shallow teeth, and quick, light, sprightly movements will leave a surface clean, and capable of taking a fine polish with stones and powders adapted to the purpose.

The file should always be kept wet during the operation, so as to wash off the debris as it falls from the mass from which it is taken, and distribute the heat produced by the arrested motion. Common tape, sand paper, and wash leather charged with some finishing powder, such as the flour of emery, corundum, tripoli, &c., &c., are indispensable means by which to trim down and polish the rounded and irregular surfaces of teeth and fillings, so as to insure facility of keeping them clean and nicely polished. Any filling that will not bear filing is unsafe and ought not be allowed to remain in a tooth. I am aware that this rule condemns the vast majority of fillings as now inserted by those denominated "first class"—"none better," &c., &c.

I am also aware that it is not only possible, but practicable, to so nicely prepare and fill cavities that very little filing

will be necessary. In fact, the very highest skill is able to dispense with the file as a finishing instrument, resting satisfied with Stones polishing powders, tapes and sticks. But it is questionable whether wasting a little more gold by having a little excess will not be a means of a strict economy of time, which is gold, and add to certainty and completeness of success in the end. It is not pleasant to the patient nor flattering to the ability and faithfulness of the operator, to be under the necessity of patching deficient portions of a filling, that were deemed perfect until the attempt to finish them revealed the soft spots and imperfections that conscience can not pass over when so *fully uncovered* to the operator *and* patient.

An affectionate regard for the truth and a persistent determination to come up to her requirements in our own practice as fast as they become known, will soon enable us to speak out our convictions so that they may be put to the test and our views confirmed or displaced by others more in accordance with the efficiency we are all so earnestly seeking.

The more I reflect upon the difference of apprehension existing among men, the more am I convinced that it consists in the difference of degree of intelligence they possess. Truth is a unit, when we arrive at the demonstration thereof, in the completeness of mental labor to the degree of knowing it to be truth, and then all with one accord pay it the homage which is its due.

In consequence of the unfortunate use made of the file, there are many Dentists and more people who are unwilling to even listen to its advocacy with the admission that it were possible to do other than harm to the teeth in its use; and, of course, truth to them demands that it be avoided in toto. While those who have been in the habit of filing, and having their teeth filed down to unsightly pegs, which they have retained ever since in vigorous use, are, of course, very strong partizans of the file; and the truth as they see it urges them very positively in the line of heroic filing.

These and those are but half truth, and of course not complete until brought together by an intelligent fusion, when lo the veritable truth stands forth revealed to and acknowledged by both. It will no more do to half file and half finish and then look for perfect results, than to half survey the field of facts upon which the demonstration of truth depends and then call the deduction the truth.

Perfect preparation for and faithful execution of professional work can alone entitle us to assume the responsibilities of a professional career.

When we *know* what is required of us, we are too honest to hesitate to take the necessary steps involved to fit us for a *clean* and honorable practice.



## Proceedings of Societies.

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### ASSOCIATION OF THE COLLEGES OF DENTISTRY.

During the meeting of the American Dental Association at Boston in August last, a conference was had by the representatives there present of the various Dental Colleges in the United States.

A free expression of opinion was given by those present upon the subject of dental education, particularly with reference to the preparation of those seeking to enter the ranks of the profession. All concurred in the opinion that much more than has yet been attained in this direction is desirable. This, in connection with the demand of the profession in reference to this matter, would seem to indicate that a concurrent advance movement should be made by our Colleges.

Harmony and uniformity in any advance movement was conceded by all to be desirable. Suggestions were made on many points, especially upon a basis for future action.

A preamble and constitution for an organization was pre-

sented, which was referred for future action, after which it was agreed to meet in Philadelphia at the call of the chairman. The Conference adjourned.

According to previous notice, the faculties of the Dental Colleges of the United States, met at the lecture room at the Philadelphia Dental College, in Philadelphia, at 10 A. M. October 17, 1866.

The different Colleges were represented as follows :

Baltimore Dental College, F. J. S. Gorgas.

Pennsylvania Dental College, T. L. Buckingham, Geo. T. Barker, E. Wildman, W. S. Forbes, J. Trueman.

Ohio Dental College, J. Taft.

Philadelphia Dental College, J. H. McQuillen, C. A. Kingsbury, J. F. Flagg, J. Garretson, A. Leeds, Thomas Wardle.

New York College of Dentistry, E. Parmley, N. W. Kingsley, W. H. Dwinelle.

Dr. Parmley was chosen chairman *pro tem.*, and J. Taft Secretary.

On motion of Dr. Buckingham, a committee consisting of one from each faculty was appointed, to nominate officers and prepare business for this meeting.

COMMITTEE.—T. L. Buckingham, J. H. McQuillen, F. J. S. Gorgas, W. H. Dwinelle, J. Taft.

The Committee having retired after due consultation, presented a partial report, which embraced a draft of a preamble and constitution for a permanent organization. The report being accepted, the constitution was read article by article, discussed, amended and adopted.

#### PREAMBLE.

WHEREAS we recognize the necessity for further effort for the advancement and elevation of our profession, and for a higher standard of education and professional attainments : therefore

*Resolved*, That we do form ourselves into an Association

for the accomplishment of the above object, with the following regulations for our government.

#### ARTICLE I.

This organization shall be styled THE ASSOCIATION OF THE COLLEGES OF DENTISTRY, and shall be composed of the Faculties of the Dental Colleges subscribing to this Constitution.

#### ARTICLE II.

The duty of this organization shall be to confer together upon such means, and to suggest such measures to the various Colleges, as may lead to a concert of action in the furtherance of these objects.

#### ARTICLE III.

The officers of this Association shall be a President, Vice-President, Recording Secretary, Corresponding Secretary, and Treasurer.

#### ARTICLE IV.

The vote on all ordinary questions may be decided by the individual members of the Association present at the meetings; but the determination of any question of importance shall only be by a vote of the Colleges belonging to this organization. Each College being entitled to but one vote, and in case of a tie, the matter shall be referred back to the respective Faculties for decision; the Professors in the Didactic Course of each College being entitled to vote, and the majority shall decide.

#### ARTICLE V.

This Constitution may be amended or altered, by notice being given one year in advance to all the Faculties; two-thirds of the Colleges being necessary to effect such change.

It was, as a whole, fully discussed by Profs. Garretson, Kingsley, Buckingham and Flagg, after which it was unanimously adopted.

The Executive Committee now presented nominees for the various officers of the permanent organization.



The election of officers was now declared in order. Upon balloting, the following persons were found to be elected.

President.—E. Parmley, of New York.

Vice-President.—F. J. S. Gorgas, of Baltimore.

Rec. Secretary.—J. Taft, of Cincinnati.

Cor. Secretary.—J. H. McQuillen, of Philadelphia.

Treasurer.—Geo. T. Barker, of Philadelphia.

Adjourned to meet at the lecture room of the Pennsylvania Dental College at 4 o'clock P.<sup>m</sup>.

#### AFTERNOON SESSION.

College Association met at the time and place designated by the adjournment. Minutes of the morning session were read and approved.

On motion,

*Resolved*, That a Committee of three be appointed to transcribe this Constitution into a book, to be procured for the purpose. Also, to draft a code of by-laws, to be presented to the next meeting of the Association.

COMMITTEE —J. Taft, N. W. Kingsley, J. H. McQuillen.

The Committee was requested to furnish each of the Faculties with a draft of the proposed by-laws, one month before the next meeting.

On motion of Dr. Gorgas,

*Resolved*, That the rule of our Colleges, allowing one session in a medical College to be considered equivalent to one course in a dental College, be abolished.

On motion of Dr. Kingsbury,

*Resolved*, That two years of pupilage with a reputable dental practitioner, inclusive of two full courses of lectures in a dental College, be required to entitle the candidate to an examination for graduation as D. D. S.

On motion of E. Wildman,

*Resolved*, That a graduate of a respectable medical College who has been under the pupilage of a reputable dentist for one year, and shall have attended one full course of lectures

in a dental College, shall be entitled to examination for graduation.

*Resolved*, That seven years practice be regarded as equivalent to one course of lectures; the applicant shall pass a satisfactory preliminary examination before entering a dental College.

*Resolved*, That the regular term of instruction in the dental Colleges, be five months instead of four. (Laid on the table.)

*Resolved*, That students shall not be received later than the 20th of November; this to take effect the present year. All other regulations as agreed upon above, to take effect at the beginning of the session of 1867-8.

*Resolved*, That the tuition fees of the Colleges be for the first course \$120, and for the second, \$115. (Laid on the table.)

It was requested that the minutes of these meetings be published in the dental Journals.

The Association adjourned to meet in Philadelphia on the third Wednesday of March, 1867.

J. TAFT,  
*Secretary.*



## DENTAL ASSOCIATION OF CANADA WEST.

BY J. S. SCOTT, COBOURG, C. W.

A convention of Dentists was held in Toronto, January 3d, 1867. Present: B. W. Day, M. D., of Kingston; Drs. C. S. Chittenden, of Hamilton; F. G. Callender, of Cobourg; J. O'Donnell, of Peterboro'; A. D. Lalonde, of Brockville, M. E. Snider, of Toronto; D. A. Hogart, of Hamilton; J. S. Scott of Cobourg. B. W. Day, M. D., appointed Chairman, and J. S. Scott, Secretary.

The Secretary read the circular calling the meeting. Letters were received from Drs. G. V. N. Relyea, of Belleville—S. T. Clements, of Napanee—and from most of the established Dentists from all sections of Canada West not in at-

tendance, approving of the object of the convention, and stating their inability to attend until next meeting.

The chairman then stated that the object of the convention was to organize a Dental Association, and to take steps to procure the passing of a law, requiring Dentists to undergo an examination.

Drs. F. G. Callender, J. O'Donnell, and H. T. Wood, expressed themselves in favor of organizing an Association, and of securing an act of incorporation. Dr. S. C. Chittenden said he was pleased to see so large an attendance. That unless we organized an Association at this meeting, he feared we could not get so many together again in a long time. He did not look upon a protective law of so much consequence as the great advantages to be derived from associating together and comparing ideas of practice. He would not oppose Incorporation, but desired first an Association.

Dr. Lalonde said he was in favor of procuring a law requiring Dentists to have license, and of preventing those unqualified from practising. He was surrounded by quack Dentists, who were travelling the country over without an office or even a Post-office address, imposing upon unsuspecting people, and injuring qualified Dentists, who were obliged to keep up established offices.

Dr. J. S. Scott said it was time the people had some means of knowing who were qualified to practice as Dentists. He was in favor of securing an Act requiring Dentists to pass an examination. That the first action of this meeting should be to organize a society. He would therefore move, seconded by Dr. C. S. Chittenden, "That we proceed to the organization of a Dental Association for Canada West." Carried.

On motion—Drs. F. G. Callender, C. S. Chittenden, H. T. Wood, J. O'Donnell and the chairman were appointed a Committee to draft a Constitution. The committee reported a draft of Constitution which was adopted: requiring that candidates for membership, in addition to professional knowledge, shall have practised successfully for five years in

one place, in an established office: Students who are articulated to regular practitioners for not less than two years may become *incipient members*, on ballot, by being recommended by two members of the Association.

The following officers were then elected:—

B. W. Day, M. D., President; Dr. C. S. Chittenden, 1st Vice President; Dr. H. T. Wood, 2d Vice President; Dr. F. G. Callender, Treasurer; Dr. J. S. Scott, Recording Secretary; Dr. J. O'Donnell, Corresponding Secretary; Dr. D. A. Bogart, Librarian. Committee on By-Laws—Drs. F. G. Callender, D. A. Bogart, M. E. Snider, and A. D. Lalonde.

Moved by Dr. D. A. Bogart, seconded by Dr. G. Callender:

That the following committee to draft a Bill of Incorporation, to be submitted to Parliament at its next session: The Committee to consist of the President, Vice Presidents, and Secretaries. Carried.

Moved by Dr. C. S. Chittenden, seconded by Dr. D. A. Bogart—

That Dr. G. V. N. Relyea of Belleville, be elected a member of this Association, he being unavoidably prevented from attending this meeting. Carried unanimously.

Moved by Dr. J. S. Scott, seconded by Dr. D. A. Bogart—

That the following members be requested to read papers at the next meeting as follows: Dr. F. G. Callender, upon Operative Dentistry; Dr. G. V. N. Relyea, upon Nitrous Oxide Gas; Dr. J. O'Donnell, upon Diseases of the Antrum; Dr. C. S. Chittenden to select his subject. Carried.

Dr. C. S. Chittenden said this Association having adopted a high standard of qualification, it was desirable the public should know, who had become members. He would therefore move, seconded by Dr. T. H. Wood—

That the members be requested to insert in their cards the following—"Member of the Dental Association of Canada West." Carried.

The semi-annual session will be held in Cobourg, on the first Tuesday in July next, to commence at 6 o'clock P. M. The next annual session at Hamilton, on the third Tuesday in January next, to commence at 7 o'clock, P. M.

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### DELAWARE DENTAL ASSOCIATION.

At a meeting of the Delaware Dental Association, held in this city, on the 25th inst., the following resolutions were unanimously adopted:—

WHEREAS: We have learned that the "Dental Vulcanite Co.," of Boston, have instituted suits against various Dentists for the use of hard rubber for dental purposes; and believing, as we honestly do, that said Company have no just nor legal claims against Dentists for the use of hard rubber.

*Therefore, Resolved*, That we do not recognize the claims of said Company, and will not accede to their demands until we have done our utmost to see the case prosecuted before the highest legal tribunal of the land; and for that purpose we will unite our energies and our money to enable ourselves and others to legally resist the claims of said Company.

*Resolved*, That we officially inform the several Associations of our action, and publish these resolutions in our city papers and dental periodicals.

*Resolved*, That our executive committee be instructed to correspond with the committee of Philadelphia dentists, and solicit our unity with them and their co-operation with us.

*Resolved*, that our executive committee be requested to solicit subscriptions from the dentists and others of the surrounding country to assist us in our laudable object.

Wilmington, Del., Dec. 26, 1866. S. MARSHALL, Sec'y.

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### AMERICAN DENTAL CONVENTION.

The 13th annual meeting of this body will be held in the city of New York, on Tuesday, the 5th of March next. The



executive committee have made arrangements which will ensure an interesting and entertaining session.

On the evening of Wednesday, the 6th of March, the commencement of the N. Y. College of Dentistry will be held in Steinway Hall. The address to the graduating class will be delivered by Dr. W. W. Allport, of Chicago; Hon. John T. Hoffman, Mayor of New York, and other eminent speakers will deliver addresses.

A cordial invitation is hereby extended to Dentists throughout the country, to be present and take part in the proceedings of the Convention.

Further particulars will appear in the N. Y. daily papers.

W. C. HORNE, Sec'y.



### NOTICE.

Transactions of the American Dental Association, including the proceedings of the Convention of Delegates held at Niagara Falls, August 4, 1859, and the six annual meetings held in Washington, Cleveland, Philadelphia, Niagara Falls, Chicago and Boston, in successive years, are now being published in one volume, about the size of "Harris' Principles and Practice," and containing about one hundred Essays and Addresses, with verbatim reports of the discussions. The publishing committee having received applications for copies from those not members, have decided to print what extra copies may be ordered, in addition to the number required to supply the members of the Association.

As the edition will be limited to the demand, orders from others than members (enclosing the price, \$5.00,) should be forwarded immediately to the undersigned, 208 Essex St. Salem, Mass.

The books will be ready for delivery in a few weeks.

L. D. SHEPARD,  
Chairman Pub. Com.

## CRACKING OF RUBBER PLATES.

BY GAM'L JACKSON.

The liability of metallic plates, after being worn in the mouth for a considerable time, to crack is well known. Rubber Plates though more elastic are less tenacious, and are thus liable to the same accident. It is easy to understand how the combined force of mastication and the wedging of some hard substance between the teeth may start a plate; a start once effected the destruction of the plate is sure to follow.

I have made over, within two years, three upper plates of this kind; one of them made originally by myself. One of the others was a heavy, well vulcanized and perfectly finished piece of work, and was worn by a gentleman of unquestionable veracity, who told me that the plate had not met with any accident, but had broken simply by eating with it.

As a protection against such breakage I now imbed a double headed bolt in the plate, near to the pins of the centrals, I make the bolts from hard gold wire, nearly double the thickness of the pins in plate teeth, and long enough to reach beyond the first pin in the centrals. The best way to head the bolts is to punch a hole the size of the bolt near the end of a strip of plate, about half an inch long and as wide as the desired diameter of the head, and solder on to the wire. The bolt thus made should be pressed in the wax to the place it is intended to occupy in the rubber, just before the piece is put into the flask. The strips extending from the heads will be imbedded in the investing plaster, and will prevent any displacement of the bolt during the process of "packing."

If no other dentist has experienced the above mentioned accident, then the aspiring author of this article is abased; but it may still be claimed that it was not written wholly for vainglorious ostentation, and that being in some degree original, it does not look like an expiring flicker of the literature of a science—apologies which cannot reasonably be offered for several additions to the dental literature, bound and otherwise.

## VIOLENCE IN DENTAL OPERATIONS.

BY J. P. H. BROWN.

It is a professional axiom, that every dental operation should be performed with *thoroughness and skill*. If, in order to execute any operation upon the teeth, or adjacent parts, in a faithful and skillful manner, it becomes necessary to inflict pain, it should be done. But in doing so, the constitutional diathesis of the patient, as well as the susceptibility of the parts operated on to morbid action, must never be lost sight of. When these idiosyncracies of the patient are not taken into account, our treatment may amount to violence as the following case will show :

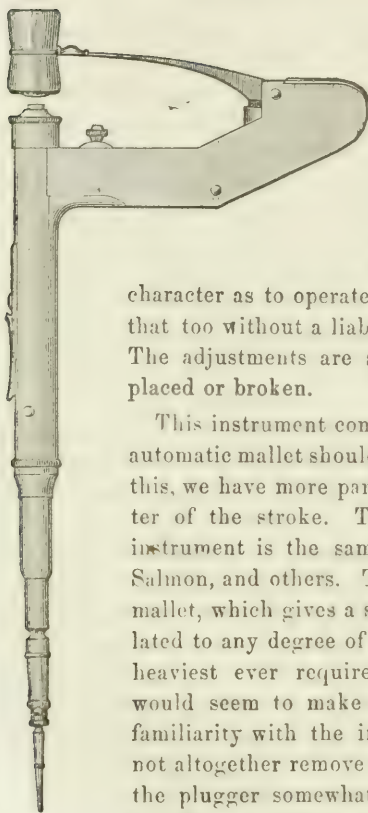
I have now under treatment a patient who, three years ago, had his upper central incisors separated with rubber, by a dentist preparatory to filling. To use the patient's language, his dentist "*violently forced it between the teeth and into the gum.*" The result of this violence was inflammation of the alveolo-dental periosteum of the right central incisor, and from thence gradually extended as far back as the first molar. The periosteal inflammation terminated in necrosis of the alveolar processes of the right central and lateral incisor, and of the right cuspid and bicuspids, and also of a considerable portion of the jaw, and of a part of the palatine bone. The sequestrum has not yet separated from the body of the jaw. The patient has what is termed the strumus diathesis.

Had the dentist, in this case, possessed a sufficient amount of medico-dental knowledge, he would have introduced his rubber, not with violence, but with a due regard to the susceptibility of the parts to diseased action. The file, rubber, wood, cotton-wedges, &c., are all most excellent for separating teeth when rightly applied to just the right case. *Routine* in the practice of dentistry is just as reprehensible as it is in the practice of medicine.

## Editorial.

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### REDMAN'S MALLET PLUGGER.



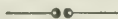
The accompanying illustration gives an idea of this very ingenious, and useful instrument; it presents little or nothing, however, of its interior structure. This we cannot pretend here to describe, of which suffice it to say, that it is of such a

character as to operate definitely and accurately, and that too without a liability of getting out of repair. The adjustments are such as not to be readily displaced or broken.

This instrument comes nearer our idea of what the automatic mallet should be, than any we have seen; in this, we have more particular reference to the character of the stroke. The principle of operating the instrument is the same as that of Snow, Scranton, Salmon, and others. The blow is made by a veritable mallet, which gives a spring stroke, and can be regulated to any degree of force between the lightest, and heaviest ever required. The large arm attached would seem to make it unwieldy; but use of, and familiarity with the instrument will soon, chiefly, if not altogether remove that objection. We have used the plugger somewhat for the past two months, and like it very much as a condenser; though as in the case of other automatic mallets, we have found a few patients who object more to its stroke than to the mallet in the hand of the assistant. This instrument has a stop to its movement, that

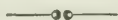
enables it to be used by hand pressure. The weight of the instrument renders it less practicable for taking up and introducing the gold, than some others.

It will necessarily be somewhat expensive, but we think after some familiarity, it would be almost invaluable in the hands of any one. Further information concerning it can be obtained by addressing Dr. W. G. Redman, Louisville, Ky.



#### DELAY.

The present number of the REGISTER is, to our great regret, much delayed ; but from a combination of circumstances, that we could not prevent or control. Sickness, an unusual press of varied duties, and the — — printers !



#### PERSONAL—PROF. WATT.

Our readers, though before notified of the fact, will be delighted to find Dr. Watt's name upon the REGISTER as one of its Editors. His editorials will bear his initial. The other Editor will get somebody to write his editorials who will consent to do so without any initial.

It is with great regret that we have occasion to announce that Dr. Watt is again for the last month prostrated by severe sickness, not, however, of as grave a character as that with which he was afflicted fifteen months ago ; but, nevertheless, very severe. We are glad to say, that within the last few days there is much improvement in his symptoms. His chair is being very satisfactorily filled in the College by Prof. Vaughn, of this city, than whom there is perhaps no man of better general scientific attainments in the country.



#### NIP AND SNARLER.

IN resuming the editorial pen it was but natural that we should look around and see what new and useful appliances, in the way of labor saving, had been introduced. The most noticeable is the adoption, by The Dental Times, of a convenience we have long enjoyed in private, but never thought of applying to journalism, and, yet like the telegraph, it "is very simple when once found out."



We have a little dog, too small to be of much force, yet he can do as much barking as if he were twice as large. His name is Nip. The "Times" has one also. His name is Snarler. He calls his yelpings "Quarterly Notes." Nip barks oftener than quarterly. Nip is an English Terrier. Snarler's pedigree is "unknown." Nip's eyes were open before he was two weeks old. Snarler's are open now, one of his keepers tells us. Nip acknowledges two or three masters. Snarler recognizes five. Nip licks his masters' feet. Snarler beslavers his masters' books and institutions. Nip is very ferocious, but we soothe our friends by telling them he wont bite. Snarler appears cross too, and one of his keepers has kindly told us he wont bite. He tells us also, that Snarler is in a "distant city." By a singular coincidence, Nip is too, and not far from the same city. Nip has but one vice. Sometimes *he will lie*, to induce us to open the door that he may come in to the fire. I am sorry to find Snarler addicted to similar vices. Both should be ashamed of themselves, and leave such practices to the bipeds.

We congratulate the "Times," on being, in this improvement, ahead of all competition. W.

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#### MEETINGS.

The regular annual meeting of the Ohio Dental College Association will be held in the first lecture room of the College on Tuesday the 5th day of March, at 10 o'clock A. M. As there is much and important business to be transacted, it is very desirable indeed to have a full meeting of the stockholders. The business matters of the Institution should be transacted by all the stockholders or members of the Association, and not by eight or ten persons, as has sometimes been the case.

The cause of professional education has become too important a matter to be neglected by any member of the profession who has its best interests at heart. We hope there will be a full attendance on the 5th of March.

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The annual meeting of the Mississippi Valley Dental Society will take place in the Ohio Dental College, on Wednesday the 6th of March next, at 10 o'clock A. M., at which time we hope to

meet all the old friends of this Association and the new ones too; and all who wish to become its friends. A meeting of all its children would make a large gathering. We shall hope to have a larger meeting of this body at this time, than for many years past.

It is the oldest Dental Society in existence, and there are memories linked with it that those to whom they are familiar would exceedingly regret to have fade away.

We hope to see all the members of this Society together once more. Then let all come. There are always matters of great interest before the meetings of this Society.

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The Commencement Exercises of the twenty-first annual session of the Ohio College of Dental Surgery, will take place on Wednesday the 6th of March, at 7½ o'clock P. M., in the College. All members of the profession and friends of the Institution are cordially invited to be present. The exercises usual upon such occasions will take place.

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#### A NEW EXTENSION BRACKET.

We recently put in use one of Snow & Lewis' new "Sliding Extension Brackets," and like it very much. Its chief advantages are that it can be shortened without the projections made by the angles of the ordinary hinge or joint bracket; this one can be shortened and still present the straight shaft or arm: and again, it is more firm than the hinge bracket. It consists of pieces of iron pipe, neatly fitted and sliding into each other. A neat table accompanies it, to which is attached a wooden cup for holding instruments, which is a thing of great convenience. They are for sale at the Dental Depots.

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#### NOTICE.

The following numbers of the "Dental Recorder," and "Dental News Letter," are wanted to complete volumes of these Journals; which have been donated by the "St. Louis Dental Society," to the library of the Ohio College of Dental Surgery.

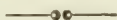
Any one having any of these numbers to donate or dispose of in any way, will please send them by mail to Dr. A. Blake, St. Louis, Mo., and if a charge is made for them, send bill.

## "DENTAL RECORDER."

Wanted	Nos. 1 and 2.....	Vol. I.
"	No. 2.....	" II.
"	No. 1.....	" IV.
"	No. 12.....	" VII.
"	Nos. 7, 9, 10, 11, 12.....	" IX.
"	Nos. 5, 6, 7, 8, 10, 12.....	" X.

## "DENTAL NEWS LETTER."

Wanted Nos. 1, 2, 3, 4..... Vol. I.



## ERRATA.

In the article entitled Compensation, in the Dec. No. of the REGISTER, on page 534, third line from top, read "distribution" instead of "retribution."

And on page 535, 13th line from bottom, read "But" instead of "At." Also same page, 5th line from bottom, read "obedience" instead of "and obedience." Also on page 563, last line at bottom, for "few and many" read "pen and money." And on page 564, 11th line from top, for "runner" read "income."

# THE DENTAL REGISTER.

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VOL. XXI.]

FEBRUARY, 1867.

[No. 2

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## Original Communications.

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### HISTOLOGY.

Read before the Brooklyn Dental Association, November 28, 1866.

HISTOLOGY may properly be said to be an account of the formation and growth of tissues. And is derived from two Greek words—histos, a web and logos, a discourse. And has been little better than a “hodge podge” of the crudities of the older observers, copied from one to the other, with accommodating credulity and reliance upon the correctness of the work ready performed to hand, out of which to construct text books. To such an extent has this been the case, and still continues to be, that the student or reader of these works must be as well acquainted with the subject as the authors, to enable him to understand even that which is attempted to be demonstrated.

Tissue—from texo—to weave. Tissue is made up of elements denominated, primary or anatomical. These are so small that the natural vision is incapable of detecting them. Therefore, we are indebted to artificial aid for whatever knowledge we possess respecting these small bodies.

This aid consists in the various modifications of microscopes, simple and compound, with a great variety of accessories.

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sory appliances. Every department of which must be well understood and properly applied to enable us to arrive at the demonstration of the truth.

A complete understanding of Histology then, involves a knowledge of the whole range of material (planetary) science. For our survey is not complete until we have detected, understood, and explained the rise, development to full culmination in size and proportion, no less than the decadence and death of each variety of tissue in all the divisions of material (planetary) existences denominated—primalia, mineral, vegetable, animal and human.

Every tissue is made up of cells in various stages of obliteration. And every cell is but an attempt at consolidation of a portion of amorphous or chaotic matter in plastic condition. Perfect or regular consolidation is no less than crystalization. And every degree of togetherness, called consolidation, from fluid to solid, is a step in the direction of perfectly regular crystalization.

There are two causes of fluidity at exact antipodes of molecular movement to each other, viz.: *intensity* of molecular motion—fusion by heat as it has been called; and *extensity* of molecular motion—separation into gases and ethers. Whatever opposes these states of molecular movement tends to solidify the body.

The radical tripod of currental lines, upon which organology stands as a base, is an equation of chemism, electrism and magnetism.

In the primalia these radicals are inclosed in a bleb of oxydised hydrate of carbon, the periphery of which becoming dessicated, as is said, but really hyperoxidised, the exterior of the sphere (which the bleb always is when free), becomes endowed with a plus quantity of oxygen to the interior, which divides the sphere into hemispheres or concentric spheres of plus and minus or seminal and germinal qualities, by which proliferation takes place and we thus have cell development in its simplest manifestation.



The alternations of the generations of cells might have been synthetically conceived, but it could not have been analytically proven, until the microscope had been discovered and properly constructed.

Heterodox, as is all aphoristic pronouncement of truth to the partially developed and pseudo scientific mind who tarry in the specials without being able to perceive the generals of the aspect of things, because they are unable to withdraw the mental attention from the confusion of the unimportant detail in closest proximity; nevertheless the exercise by which they differentiate any objects in the field of view from any other, is in essence the same kind of mental action, only less in degree, that would emancipate them from this narrow confinement and prove their ability to soar and see for themselves the truths they had just before denounced as "heterodox"—"*untrue!*" If to be "*sensible,*" man must be superior to the domination of his mere "*senses:*" Let us attempt the equation of his bodily and mental affections.

Feeling being the base of all the senses, as sight is their sum and apex, we may say that the scientific equation of the senses may be thus stated, viz.: The five divisions in nature, as a whole, may be said to have their sentient correspondences thus: 1. Primalia to Feeling. 2. Mineral to Taste. 3. Vegetable to Smell. 4. Animal to Hearing. 5. Human to Sight.

The pyramid is built with a broad base of many stones. Each layer being reduced in regular succession of unifying refinement until we arrive at the top where one admirable, single, perfectly-wrought stone completes the form and limits the outline of its beautiful body. The *plan* is adhered to, and the *body* is perfect. So in Nature, the Primalia are the base and man the apex of the organic structures on this planet. The Orders, Classes, Families, Genera, Species and Varieties being more abundant, occult and practically innumerable in the base, but finally culminating in the single Genus and Species—Homo—in unitary type in man as the

sum of all the preceding, and the apex or head of the great plan of Nature, as a whole. It is plain then that indifferenciation or sameness, and differentiation or unlikeness are the dual primates, without an understanding of which we shall not be able to classify the works of our minds or bodies so as to be able to propound them to our fellows in understandable, demonstrable shape. This brings us to the dogmatic aphorism that there is no *body* without its due proportion of *mind* as certainly as that there is no segregate perception of things without body, in which the mind, or seat of perception, has its focalization, or proper residence.

As material science deals only with the statical aspects of things, it becomes necessary for us to advance into the region of dynamics proper, the field in which matter is produced out of substance and transmuted into all the possibles of sameness and unlikeness, or togetherness and apartness; the various stages and degrees of which constitute every possible variety of tissue throughout the entire range of seen and unseen organic being.

Transparency and opacity being but the degrees of satisfaction or dissatisfaction of type with residence or tenant with tenement; instance, compatible, chemical solutions from seraph to silex, and all possibles between these astounding extremes!

That the extremes are astounding to us, all will agree, but, that there is any real relation between them, I have not the confidence to hope that many will admit at first view. No one rejects truth, knowing it to be such; but we are apt to call that truth only which is in the garb of some already known and established presentment thereof.

An attempt to prove the reality of relation between a burning seraph and a brilliant crystal of silex, to the mind that demands that the testimony shall all be brought down to his own particular position, while he refuses to be carried up to higher and clearer fields of survey, the traverse of which would empower him to perceive relations before out of the

range of his perceptive ability; would be much like demonstrating the higher relations of number and form, so clearly provable in mathematics and geometry, by the necessary preparatory training and development of apprehensive power, to him who had grown to manhood without the advantages of a primary school, a difficult task, and a lifetime labor of love, —first, to remove all the obstacles, and then impress each step of the process, deep enough to enable him to hold the singulars near enough together, and in the proper order of relation to favor their cancellations into the general which swallows them each and all in the presentment of their rounded proportion of clear and satisfactory demonstration.

If, then, all truth, to be communicated or taught to others, must first be put forth in positiveness of statement, sometimes invidiously called “dogmatic propositions,” we must expect to have it cautiously received by the truly philosophic mind, bluntly scouted and rejected by the self-sufficient dogmatic mind, and listlessly stared at by the superficial and frivolous cast of mental endowment; and so amid all these discouragements have a weary way to general demonstration and recognition. But as there must have been a time when the present splendid array of clearly proven and firmly established truth was outside of all human apprehension of its power and presence; it is evident that there must have been a will and a way by which this blank became the well-stocked book of recorded experiences upon which men of science make such multifarious interchange of that which each, in his individual researches, may have come in possession of, in fact and philosophy, which together constitute that which we call scientific attainment.

The fact is now a days we are so universally born into the world already so richly endowed with the labors of others, that we very complacently come into the splendid accumulations of the pecuniary and mental wealth attained by our predecessors, and find it much easier to accept and use it than to inquire how they became so marvellously endowed.

But if we do not learn this first lesson of their success, it is certain that the time will come when we shall be bankrupt in both money and that knowledge which teaches us how to retrieve our lost fortunes.

To get at general propositions such as the tremendous equations of greatest differences, we must transport ourselves mentally back to the time when the morning stars sang their first symphony, immediately after darkness and nonentity had been dissipated by the power of that voice which said "let it be," and lo it stood forth, first in elemental chaos out of which each form then took serial order from highest to lowest and lowest to highest. Another dogmatic formula of *power* and *presence*, or dynamic and material correspondences, will enable us to apprehend more exactly the degrees of mental labor or the process by which we work up into our *intellects* the *feelings* that spontaneously arise in and pervade our sentient natures. By going one step below the primalia (or feeling) and one above man (or sight), we are enabled to produce the section of a complete human sentient centre or the exact formula of mental operation, viz.: 1. Chaos (corresponds by antithesis) to knowledge (demonstration). And here we repeat the five senses and their co-relatives, with the single difference of beginning with chaos as unity, thus: 2. Primalia to Feeling. 3. Mineral to Taste. 4. Vegetable to Smell. 5. Animal to Hearing. 6. Man to Sight. 7. Supernal (Sentieney) to Inspiration. By adding chaotic, and supernal states to the former diagram or section we are enabled to perceive in this corrected one how we are connected above and below, and thus get out of our mere senses into states of definite and indefinite apprehension whereby to measure ourselves and correctly take our true position in the universe, physically, mentally and morally.

It was stated that "chaos" (matter in its strictest sense), "by *antithesis*," "corresponded to knowledge." From an exterior stand point this is true, but if we view it as a mental process occurring in the individual and capable of repetition



upon every impulse inspirationally produced, we must reverse the order of numerical annotations to enable us to correctly observe the process of an inspiration becoming a knowledge or overpowering perception of the truth! Let us say that the individual is formed and ready to perform the first act of mentality. A sense of need, deficiency, instructually comes upon him, which we denominate aspiration, this induces 1. Inspiration which strikes the periphery of the mind or sentiency, causing undulations denominated 2. Feeling, this when culminated produces 3. Idea, which in like manner of gestational activity becomes 4. Thought, and by continuance this merges into 5. Opinion, and here the impetus being regularly continued in due process of movement this merges into 6. Belief, and this by simple intensification of the same centripetal action fuses into the complete, clear and incontrovertible demonstration of 7. Knowledge. Thus knowledge is the indisputable property and most interior of the individual mind. Deficiency and fullness are then most interior states and upon these will our activity or lethargy depend.

Let us recapitulate for the sake of conciseness and clearness of definition. Attainment of knowledge is a centripetal direction of mental labor. Forgetting is a centrifugal course of mental action. Coming to us the first work is (1) Inspiration, (2) Feeling, (3) Idea, (4) Thought, (5) Opinion, (6) Belief, and (7) Knowledge. Going from us, (1) Knowledge dwindles into (2) Belief, this into (3) Opinion, and this into (4) Thought, which very soon dies out into (5) Idea, which dissipates into the vagueness of mere (6) Feeling, when it ceases to be within the mental grasp the instant it passes into the sphere of (7) Inspiration. And thus is lost the accumulations of a lifetime by inverting the currental movements in the channels through which the acquisitions were made. Probably the greatest difficulty in the way of exactness in all matters of science is to be found in the assumption by each individual observer of his particular position in the universe of mind and matter being the grand centre from



which all observations must be taken to be tolerated as even possibly correct. Scientific matters have come to such a pass, that he who would know must either isolate himself, be a hypocrite or possess the innocency of the dove coupled with serpentine sapiency to the degree of the equation of that difficult problem of deficiency and fullness of mental wealth. Do I hear some one say, "If all this and more be involved in the attainment and correct propounding of histology in even a small department of its bewitching domain of knowledge, I fear there are few who have the courage to undertake it." To which, permit me to reply, then there are few who apprehend the direction in which the happiness of themselves and the whole race alone can be found, unless that happiness be attainable in a reversion to savagism, for until we learn how to obey law intelligently we must fall back upon mere animal instinct which would soon so reduce the population as to make even traditional science an impossibility. Waiving then for the present the formation of matter out of substance, let us contemplate a system of organs fully ripened in its tissual constituencies so as to be in possession of a plus quantity of the material riches, an exact equation of which constitutes the pabulum upon which these tissues feed. This system being fed above individual need, begins to lay by in store tissue material or food for cells proper in receptacles provided for the purpose. This hypothetical radical of chaos has two distinct forms of bodily presence—one the type of fluids and motile force, the other the type of solids or statical receptivity—*i. e.*, active and inactive—masculine and feminine, seminal and germinal, &c., &c., or any other name by which the inter-dependent necessities of positivety and negativety may be called.

All bodies floating free in a medium rarer than themselves are necessarily endowed with an equator, poles and zones, in which the resistance of the medium to the rotating and orbital force produces currents in exact agreement with the equation of these forces.

In case the body be hard and resistant the currents will be on the surface, in the medium; and in case of being fluid they will be on the surface and in the body of the fluid, to a depth varying with the circumstances of the number of the currents in the body as a whole or a planet, and with other modifying conditions. That is a dense medium and rapid orbital (which is the concomitant of rapid revolving), motion will produce rapid and numerous currents upon the seas, so to speak, the motion raising them, the seas, at their margins like the edges of whirlpools and depressing them in their centers.

The diversity of the molecular motions (heat) at the poles and the equator divides the body into hemispheres in which the effort at equalization of molecular motion (heat) becomes the prime cause of the currents from the poles to the equator and from this to the poles which constitute the currents in circular or elliptical form in accordance with the resistances they meet with defining them as circles or ellipses. In case of variety of medium and slowness of movement of the body, these currents will pervade larger surfaces of the seas and move with less rapidity therein and thus necessarily be fewer on the planet and of less proportional depth of center and elevation of margin or edge.

As a sequence of the basal aphorism, "all things differ but in degree," concrete and discrete, it follows that every independent body must be a planet or a microcosm in which reside all the dynamical, physical and statical possibilities, and hence be a sphere, until it ceases to be independent by becoming associated with other planets so as to interfere with its freedom; when it divides the dominion of space and accommodates itself to the change of circumstance, with the same spontaneity that it holds fulness of sphericity when without a partner or partners in the territorial space which it occupies. And it then assumes any and every form, and degree of density, necessary to accommodate itself to the divided dominion. The blood disks and lymph corpuscles

are the only examples of really free bodies in the human organism, hence are the only proper spheres in the economy of "formed tissues."

The rapidity of the movements in currental lines producing primal bodies and mental processes, renders them difficult of observation; and hence they have been ignored by all but a very few who have had to be in possession of earnestness (sufficient to overcome their own deficiencies coupled with the sharp jeers of their fellows arising from the same cause, calling for "facts, more facts," before they had comprehended the significance of those already familiar to all), if they would make any progress of substantial character.

This necessity for regularity and directness of movement in both instances may be proven by a reference to the fact of quiescence being requisite to the formation of crystals and cells of slow growth; such as silex, diamond and many salts, slight agitation of the mother waters of which so effectually prevent their formation: and the failure of the mind to accomplish its work when under the influence of adverse or confusing currents.

Just so soon as the mind fails in its central attraction, a chaos of mental ebullition holds the dominion until spent or overcome by a centripetal direction being restored to the currents of motion.

I deemed it important, thus cursorily, to examine the mental tools and enabling circumstances by which these are to be brought into requisition in the investigations before us, that the steps we take may be made more certain to our apprehension. It is patent to every observer that that which we call knowledge is but fractional, not rounded out to such completeness as to commend itself alike to the uncultured and the cultured mind. This arises partly from the nature of the subject and partly from want of uniformity in manner of investigation and nomenclature. But chiefly from the false teachings that have prevailed, causing one of the investigators in this field to exclaim in the bitterness of his soul,

"Alas! the scientific *mind* is steeped in the *senses* and is the drudge of their limited sphere!" to which I would add, and so long as it remains under this dominion it will be incapable of any thing better than the accumulation of incoherent, meaningless facts without a cause or use. But if we can intelligently accept the trite aphorism, "all things differ but in degree, of concrete and discrete proportions," we will have done more to get at the clear understanding of our subject, than if we had aggregated every fact in the universe without being able to deduce the law or *plan* of nature, which they all tend to prove, the moment they are properly corelated.

And now, as the whole body derives its *force* from respiration, so also do the least as well as the largest constituents thereof depend upon the diastolic and systolic synchronism of each (breathing) to perform its proper function.

And as the entire system is at one time but a bleb—a proliferation of cell—a mere dermatozoon, the further possible evolution of which depends upon an influx of a *something* to awaken its dormant *power* into an active directing *force*; it does seem plain that all function is readily reducible to the formula of breathing (*i. e.*) inspiration (taking in) digestion (placing) and expiration (throwing out).

Then if cells are begotten, gestated, born, live out their allotted term of occupancy and dominion of time and space and then die, it is evident that many generations in alternations must live and die in the production of the tissues we are so desirous to detect in their metamorphoses into the organs out of which our personal bodies are so intricately constructed.

The eye can never settle this occult and important quest, in any but those examples of cells, tissues and organs that are in their normal, living state, quite transparent, so that the metamorphoses may be seen and recorded.

That this will not soon be accomplished in regular serial order in human organisms I dare not now assert; for it has occurred to me so often in witnessing the reproduction of lost

tissues, to see vessels spring up in the transparent plasm, which occupied the former position of the primary structures, until their abundance obscured the field, that it is more than probable that the possibility of the portraiture of these successive stages is nigh upon us in some of the enthusiastic hands who now are becoming interested in the matter.

From all that I have seen, read and heard, I have no doubt that reproduction follows the rôle of production of tissues and organs in all forms of being where it takes place at all.

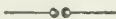
As this has been proven over and over again in transparent bodies, and as nature is averse to doing her work in diverse ways to bring about the same result, we are safe in setting this down as one of her settled and certain laws by which we may be guided in all our efforts to interpret the unseen by that which doth so clearly appear. The harmonious difference of chemism, electrism and magnetism, constitutes not only the origin of individual existences, but the harmonious play of every function in health. And just so soon as either has been withdrawn or supplied in excess to any degree, a pure physiology can no longer be said to hold the dominion of the cells, tissues, organs, or systems in which this state of things exists.

If then the degrees and modes of obliterations of cells constitute the differences of the tissues we meet with in original production, generation, regeneration and degenerations of all the tissues in health and disease; have we not an herculean task to accomplish if we attempt annotations and nominations for all the appreciable forms already familiar to us in what may not inaptly be called, but the dawn of histological research? That the tissues are but obliterations of cells and vessels we are now happily able to prove.

Thanks to the revealments instigated by the investigations of a singular disease, viz.: "Trichiniasis" These little parasites by the law of their nature find their way into the capillaries



which supply muscular fibre and there become encysted by acting as emboli. And when not too numerous do not interfere with the function of the part longer than it requires to form new vessels and new fibres for the use of the body.



## A COMPARISON OF THE PRESENT WITH THE PAST.

BY M. S. DEAN.

Read before the Illinois State Dental Association.

MR. PRESIDENT AND GENTLEMEN:—The first course served at dinner usually consists of some variety of fish or soup. Whether this simpler food is given to the stomach to enable it to master and digest the rich and luxurious viands which are to follow, or whether it is sent to that organ as the *avant courier* to herald the coming of roast beef, turkey and other fat and distinguished guests, I know not with certainty, but believe the latter to be its true office. A glance at the *men-tal* bill-of-fare prepared by the committee will show that I am expected to supply that plain dish for this occasion, and that it holds the same relation to the intellectual feast which is to follow, as does fish or soup to the more substantial meal. This is all very proper, and is, I think, as it should be; but not being a practical caterer, and not knowing which of the two I can prepare the best, nor which of the two you might like the best, I will offer you a small quantity of fish-chowder, as *that* will serve the purpose of either one, or both combined, as may best suit your tastes. I am not entirely unselfish, I must confess, in offering you this dish; for notwithstanding they (Down East) would have you believe that it requires great skill to make a chowder, I assure you that it is the easiest dish to prepare in the whole range of cook-

ery—fish, pork, potatoes, onions, and any thing else that may be found lying around loose, constitute its chief ingredients. For this last reason—as it will allow me to throw in anything that comes within my reach, without regard to the strict rules of culinary art—I shall attempt to provide this omnigenous dish, and, though you may find ingredients therein which may *appear* foreign to it, I hope you may not find it entirely unpalatable.

The assembling to-day of many of the most distinguished Dentists of our State, shows conclusively that they are not entirely satisfied with their present professional acquirements, notwithstanding they have already accomplished results, which, but a few years ago, would have been considered impossible, or which, when achieved, they might have reasonably deemed the very perfection of Dental art. These wonderful improvements, which have been developed, one after another, with astonishing rapidity, so far from satiating or even abating their desire for still greater knowledge of their profession, only stimulate and encourage them to explore still farther into this new, interesting, and useful field of science.

Other professions, learned and honorable, date their birth far back in the remote ages of the past, and have grown with the growth of civilization, and matured and ripened slowly; while ours seems almost to have leaped forth at a single bound, as did Minerva from the cleft brain of Jupiter. Indeed, so sudden has been its growth that the fact can scarcely be realized, even by the members themselves. The only means of bringing vividly before the mind its wonderful and unprecedented progress, is by comparing the mechanical branch of the past with that of the present time. A block of ivory, wrought with much patient labor and considerable skill, 'tis true, was worn as the substitute for natural teeth, and embodied all the skill and ingenuity that the profession possessed, only a few years ago. In the other depart-

of our specialty, the progress, though not so capable of demonstration, has been none the less rapid and startling. In fact, the operative, surgical and medicinal branches may be considered the file leaders in the onward and victorious march of our calling.

The main causes which conspired to develop thus rapidly the germ of our profession, are really the *indirect* and less obvious ones.

The emigrants to our country, from its discovery to the present day, have suffered more or less by the change of climate; the sudden development of our agricultural domain; the sweeping away of our vast forests, and the cultivation of our boundless prairies—thus exposing, by the axe and the plow, measureless tracts of rich vegetable soil to the blazing rays of the sun—these, and the stagnant waters of our swamps and marshes, have filled the air with seeds of febrile disease, and produced their effects upon the entire population, both native and foreign, deranging the functions of the body, and vitiating the secretions. Add to these sources of disease, the medicines commonly exhibited in these fevers, of which mercury, in some of its forms, has been the chief, but by no means the only offender; an improper diet; hot, strong and stimulating drinks; the fatigues, exposure and privations to which the settlers of a new country are subjected—these, without naming the many lesser disturbing influences which derange the animal economy and deprave the fluids—these have been the prominent *predisposing* or *indirect* agencies which created the necessity for our profession in the country which may be considered the *mother* of Dentistry—America. But fortunately, the *force* of this necessity brought the art into living, active existence at that most favorable period in the world's history, when all the arts and sciences were cultivated to an extent never before known, furnishing, by ever-multiplying new discoveries, abundant materials already prepared for the experiments of

the Dentist, and known scientific principles for his guidance; so that the founders of our profession needed not at first to *create*, but might freely select whatever was best adapted to their purpose. But, notwithstanding these favorable influences which surrounded its origin, and fostered its growth, it seems almost miraculous that our profession, so young, should take the respectable place that it does—though by no means a high one—among the learned professions which have struggled on for centuries, encountering and removing the obstacles which lay in their path, comparatively unaided. Nor could ours have attained this position, even by the aid of these *outside* influences, had there not been men *in* the profession not only skilled in the arts, but who, for scientific knowledge and *genius* stood unrivaled by those of any other profession, and who, by encouraging and educating the less disciplined members, brought it to its present degree of usefulness and eminence. Shall we rest content with this reputable position which our profession at present occupies or shall we raise it to the place which it ought to hold, and which its importance forcibly demands? Its usefulness no longer remains a matter of doubt, and its permanence is beyond a peradventure, for its existence must be co-extensive with civilization itself. The field, too, of our professional labor is boundless—it cannot be limited to a particular locality, country or continent, nor can its benefit be confined to a single class, community or race—they must be bestowed upon the inhabitants of the whole civilized world! Ought we not, in consideration of these facts, to fit ourselves to occupy a prouder and more useful position by raising *ours* to an equal rank, at least, with the other learned professions? If so, it can be done only by erecting a higher standard of education. By this means we better serve the interests of our patients, secure greater profit to ourselves, and higher honor to our profession. Is not then our specialty worthy of this promotion?

Is it not as necessary to the comfort and happiness of mankind as is that of surgery or medicine? Is not the class for which we labor as wealthy, as cultivated and as refined? And does it not require as thorough and as extended a course of study to prepare ourselves *properly* for this, as it does for those professions which we have just named?

These queries are all answered emphatically in the affirmative. Such, then, being the responsible position which we hold in the community, it becomes imperatively necessary that we improve all the aids which the sciences can afford us, in order that we may be completely armed to battle successfully those diseases which have hitherto defied all our skill.

Our professional education, instead of being superficial, or derived solely from a few works devoted specially to our calling, should be broad and substantial in its nature, and *threefold* in its character. The *mind*, the *hand* and the *eye* should each be schooled in its respective department. In other words, our education should be *scientific*, *mechanical* and *artistic*. The sciences of Anatomy, Physiology, Pathology and Chemistry should be as familiar to the Dentist as to the Physician. Nor should the nature and properties of medicines remain vague and mysterious agencies, but certain and potent remedies in our hands; for Therapeutics has already become an important arm of our profession, and is worthy of our most careful attention. The mind thus stored with varied knowledge, enables us to treat the diseases of the teeth themselves understandingly, and to discover the relations which certain diseases manifest towards them, or which may arise from sympathy with other affected organs. It also enables us to determine or disclose to view the many occult influences which the diseased teeth maintain towards the remote parts of the body, as well as to those more adjacently situated. The whole system, with its intricate and delicate functions, must be well understood in order that one of its important organs may be comprehended and success-



fully treated. In short, the science of medicine (in a restricted sense, perhaps), should be made the ground-work upon which our specialty is reared. For it will be readily agreed to, that the Dentist who has first laid within himself the foundation of a general knowledge of matters which relate to his profession, will be found the better qualified to practice it according to the light of reason and science.

The *hand*, also, must be thoroughly trained in mechanics, and in the handling of instruments properly and dexterously. It must be able to construct whatever the mind conceives, accurately and expeditiously; for the Dentist is often called upon to perform manual operations which are extremely difficult in their nature, and which require that precision and delicacy of touch which can only be acquired by long experience and the skillful training of the hand. If the hand lack the manipulative skill to execute whatever is prompted by the educated mind, both are not only practically useless, but productive of harm rather than good. If, therefore, the education of the hand be neglected, the Dentist, whose mind is fully stored with scientific knowledge, and who is endowed with the rarest gifts of genius to conceive or invent, is worthless in the most important branches of his profession; for the *hand* and *brain* must work harmoniously together.

The *education of the eye* is likewise of manifest importance to the *artistic* Dentist. By this external visual sense, the intellect becomes acquainted with the objects that surround us, and, from it, our operations derive all the artistic beauty which they may possess. The Dental Art, particularly, cannot be confined within the strict limits of rules. The correct form, arrangement, color and expression of artificial teeth can be determined by the educated eye alone. That it may be rendered exceedingly acute and delicate by education, is a physiological fact well established, and which is, by our experience or observation, fully verified. By this means, it becomes highly skillful in *taking impressions*

of nature, and in *seeing* that they are faithfully imitated in the work of the hand. It also holds within itself a true model of whatever the inventive mind conceives, while it guides and assists the hand in copying it correctly.

Although the mechanical operations of our profession (so far as they relate to artificial dentures), derive all their natural and lifelike character from the educated or artistic eye, yet teeth may be inserted without this artistic aid which will answer the useful purpose of mastication, and which are beautiful in their mechanism, when considered as such, but when viewed *in the mouth*, they neither resemble the living organs, nor restore the natural expression to the features. And yet, such teeth possess the virtue of *honesty*, as they would not deceive the most unsuspecting countryman as to their true character. These artificial teeth can be obtained more cheaply, of course, than those upon which not only mechanical but a higher order of skill has been expended; for the artistic eye hinders the rapid progress of the hand, and makes it work cautiously, and copy faithfully the natural organs. Since the introduction of vulcanized rubber as a base, teeth *generally* have been inserted so cheaply that if other than mechanical skill has been employed, it has been more the work of love than of compensation. For this reason, the artificial branch of our profession, which, for fifteen years previous, had made such unparalleled progress, has, for the last five or six years, been checked in its onward career. This is, however, only *generally* true of the profession; for there are many honorable exceptions to the rule. Teeth are inserted to-day which rival in beauty and naturalness of expression those of last year, and which challenge the closest scrutiny to detect them from the living ones; showing conclusively that there *are* men of genius devoting their talents to this important branch, and forcing it on to the highest degree of excellence, notwithstanding the many barriers in the guise of "*cheap work*" which they have to

overcome—accomplishing results which can be attained only by the aid of the *educated hand* and the *educated eye*.

Nor does the importance of the artistic eye rest solely with this branch of Dentistry. The operator on the living teeth is thereby assisted in restoring them to their natural shape and beauty, and in removing or hiding the scars of battle which they may have received in their encounters with Dentist and Decay.

But, Mr. President and Gentlemen, when the Dental student has acquired, from a long term of pupilage, and from our colleges of learning (as far as he is capable), this scientific, mechanical and artistic knowlege, and has commenced his professional duties, he has but just entered upon his course of study, and investigation. If, from a feeling of self-sufficiency, he should hide himself within a crust of egotism, neither imparting light to, nor receiving it from, the experience of his professional brethren; if he should not avail himself of the advantages which arise from a free interchange of ideas, such as our Dental associations afford, and which are found to be so profitable to all who mingle in them; if he lack the aid, the stimulus, and the propulsive power which these societies impart—then, notwithstanding his educational advantages, he will soon find himself outstripped in the career of practical usefulness by those who started with far less scientific knowledge, but who have availed themselves of these manifestly needful auxiliaries. But this is hardly a supposable case, for those who are the best grounded in Dental knowlege, and those who have become eminent for their skill and genius—those, in fact, who require the least, because they have acquired the most, are among the first to establish these societies, and the very last who would be deprived of that kind of knowledge which can be obtained better from them than from any other source—I mean that knowlege which is derived from *comparison*. As some one before has said, comparison may be fairly termed the pioneer of all certain knowledge. Whether this

be true or not, in a general sense, it is eminently true in regard to our specialty. For the purpose of securing this knowledge, the Illinois State Dental Society was formed, and to this end, each individual member should communicate freely and unreservedly his mode of practice; his successes and (if he have any) his failures; for by comparing these with our own, our judgment will be vastly aided in arriving at correct conclusions, and in determining and directing our future onward course. With all the subsidiaries we can bring to our assistance, our labors to perfect our profession must progress more and more slowly as it *approaches* perfection. In this respect it is like a beautiful, though unfinished piece of statuary, which only approximates the ideal formed in the artist's mind. As the work of the sculptor approaches completion, he becomes more cautious and studied. His blows, which, at first, thickened the air with the flying fragments, and at each stroke developed more plainly the form imprisoned within, now fall almost like the silent snow-flakes, and wear away the marble so imperceptibly that the assiduous labor of months produces less visible change than did the first chip that bounded from his chisel; and now to crown his labors with triumphant success, it requires prolonged mental exertion and determined, persevering genius. His breast must glow with the true promethean fire, while his inspired hand, like that of Pygmalion, gradually transmutes the cold and senseless marble into life and beauty! So with our profession—the nearer it *approaches* perfection, the slower will be its apparent progress; and however real and important to mankind, less discernable to our perceptions.

We need not, then, be discouraged if the Art of Dentistry should apparently make slow progress for the next few years, as compared with the speedy growth of its infancy. If the great body of Dentists, with conscientious and enlightened effort can make little perceptible advance, then we may feel sure that the Art is approaching its ultimate limit



of perfection. Besides, we are not required, like the sculptor, to finish the work, or, at least, to finish it alone—each of us working by himself to perfect his own ideal. We are at liberty to call in all the aid which the ever-luxurious growth of Science and the Arts afford us. We may avail ourselves of every advance in the knowledge of the human frame and its workings which the busy multitude of physiologists are every day making. We may employ every new mineral the miner may drag from its concealment in the bowels of the earth. We may make use of every new substance the chemist may bring to light by analysis, or create by combination. We may have the advantage of every remedial and anæsthetic agent that the insatiable curiosity of the traveler, the thirsty mind of the naturalist, the scientific investigation or homely experience of the physician may find or hit upon. All these are co-workers with us in the advancement of Science, and from them we may freely take. Let us then continue to work, conscientiously, diligently and intelligently. Let us spend without grudging the results of our investigations and experiments; make known with modest pride our successes, and set up for example our failures without embarrassment. Let us seek and improve every opportunity like the present to compare ourselves and our work with our neighbors and theirs, not in a spirit of rivalry, or to exalt ourselves above the rest, or to gain a glittering notoriety that will put a few coppers in our pockets; but in the true spirit of lovers of Natural Science and the Liberal Arts, seeking either to teach or to learn, to give or to receive information, to lend or to borrow experience according as we may come in contact with those who are below us, or those who have gone beyond us in the generous race. So ever is true Science advanced, and so, and so only, be assured, will our Science and Art become what it should be—an unalloyed blessing to mankind, and its practice *a Liberal Profession*.



## Proceedings of Societies.

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### MINUTES OF THE FIRST ANNUAL MEETING OF THE OHIO STATE DENTAL ASSOCIATION.

The first annual meeting of the Ohio State Dental Society met pursuant to adjournment on Tuesday, January 15, 1867, in the city of Columbus, at 10 o'clock, A. M.

Dr. George Watt, the President, being absent on account of severe illness, Vice-President George W. Keely took the chair.

Members present: Drs. George W. Keely, W. P. Horton, L. Buffett, J. Taft, N. W. Williams, A. A. Blount, A. W. Maxwell, C. M. Kelsey, M. De Camp, C. H. Harroun, W. E. Dunn, H. Newington, F. H. Rehwinkel, A. R. Lord, J. M. Rhodes, C. S. Cady, J. W. Wortman, J. Williams, T. W. French.

Dr. W. P. Horton was appointed Secretary *pro tem*.

Minutes of the first semi-annual meeting read and approved.

The reports of committees, now in order, were deferred on account of absentees. The President, on motion of the Society, filled the committees *pro tem*, as follows:

*Executive Committee*.—Drs. Kelsey, J. Taft, A. W. Maxwell.

*Committee on Membership*.—Drs. F. H. Rehwinkel, M. De Camp, J. B. Beauman.

*Committee on Ethics*.—Drs. J. Taft, W. E. Dunn, C. S. Cady.

Dr. J. Taft, Chairman of the committee on Ethics, remarked that they had no special report to make at this time. So far as the committee are aware, all the members of the Society have conformed to the spirit of the Code.

On motion, a committee of three to nominate officers for

the ensuing year was appointed, consisting of Drs. C. M. Kelsey, L. Buffett and M. De Camp.

A recess was then taken until the Committee on Membership was ready to make their report.

Dr. F. H. Rehwinkel, Chairman of the Committee on Membership, offered the following:

Your Committee on Membership respectfully report the names of the following gentlemen as eligible, worthy and well qualified to become members of this Association, viz.: Drs. D. R. Jennings, Ravenna; Will. Taft and A. Berry, Cincinnati; W. M. Herriott and Wm. M. Chapplelear, Zanesville; J. L. Dunlap, Chillicothe; J. C. Whinery, Salem; H. M. Edson, Mt. Vernon; W. R. Lilly, Circleville; F. Emmons, Delaware.

F. H. REHWINKEL,	} Com.
M. DECAMP,	
J. B. BEAUMAN,	

The report was accepted, and the gentlemen named were all unanimously elected members.

#### TREASURER'S REPORT.

*To the Officers and Members Ohio State Dental Society:*

Your Treasurer would respectfully report that at the meeting of the Association on the 27th of June last, he received funds as follows:

From the Secretary.....	\$93 00	
Members.....	27 00	
		<hr/>
Total.....	\$120 00	
Paid Dr. J. Taft on account.....		\$16 00
“ H. A. Smith to purchase Secretary's book,		8 00
“ J. Taft for reporter.....		35 00
“ J. B. Beauman for use of hall.....		10 00
“ for Treasurer's book.....		88
		<hr/>
		\$69 88
Balance in Treasury.....	\$50 12	
All of which is respectfully submitted.		
M. DECAMP, <i>Treasurer.</i>		

Report accepted and referred to an Auditing Committee.

On motion, the annual dues were fixed at three dollars. (\$3 00.)

The Auditing Committee would respectfully report that they have carefully examined the Treasurer's Report, and find the same correct.

WILL TAFT, }  
C. M. KELSEY, } *Com.*

The Committee on Nominations reported the following names as officers for the ensuing year:

President—George Watt, Cincinnati; First Vice-President—George W. Keely, Oxford; Second Vice President—W. P. Horton, Cleveland; Recording Secretary—Will. Taft, Cincinnati; Corresponding Secretary—A. W. Maxwell, Galion; Treasurer—A. Berry, Cincinnati.

On motion, the report was accepted.

The Association then went into an election, and the candidates above nominated were elected.

On motion, the Secretary was authorized to send a dispatch to Dr. George Watt, informing him of his re-election, and the regrets of the Society at his inability to be present and preside at this, the first annual meeting of the Society.

Adjourned to meet at 2 P. M.

#### AFTERNOON SESSION.

The Association was called to order at the hour appointed, Vice-President Keely in the Chair. The minutes of the morning session were read and approved.

The reading of essays was next in order, and called for; but there being none in preparation, the order was passed.

The first subject for discussion, Anæsthesia, was then taken up, and elicited much interest. All the agents and modes of administration were taken up and fully debated.

There seemed to be no general preference for any particular agent.

Adjourned until to-morrow morning, at 9 o'clock.

MORNING SESSION, JANUARY 16.

Meeting called to order. Minutes read and approved.

On motion, the discussion on Anæsthesia was closed, and the subject next in order, the bill to regulate the practice of Dentistry in the State of Ohio, was taken up. The discussion was spirited, and manifested much earnestness; showing the members to be fully awake to the importance of the measure. The debate was mainly upon the ten year restriction clause. The sentiment was generally against the clause as depriving the bill of its greater merit. During the discussion, Dr. Rhodes read an essay, which on motion, was referred to the Publication Committee.

On motion, the following gentlemen were appointed a committee to confer with the Legislature in regard to the passage of the bill, and to take charge of all matters pertaining thereto: Drs. J. Taft, A. A. Blount, W. P. Horton, J. B. Beauman and J. M. Rhodes.

On motion, the local societies throughout the State were recommended to send representatives to Columbus to act in concert with the above committee.

The undersigned would give notice that an important amendment to the Constitution will be proposed by them, which will change Sec. 2d so as to read: "Active members must be twenty-one years of age, and be regular and honorable practitioners of Dentistry in the State of Ohio."

F. H. REHWINKEL,  
J. B. BEAUMAN,  
M. DECAMP.

On motion, the "Rubber Question" was made the special order of discussion for the Afternoon Session.

Adjourned until 1½ P. M.

## AFTERNOON SESSION.

President Keely in the Chair.

Prof. J. Taft moved that a committee of two be appointed to present instruments and appliances to the Society. Carried. Drs. C. H. Harroun, of Toledo, and W. R. Lilly, of Circleville, were appointed said committee.

On motion, the first hour of the session to-morrow morning be devoted to such presentation.

The "rubber question" was taken up, and occupied the remainder of the afternoon.

Adjourned to meet at 7 P. M.

## EVENING SESSION.

Minutes of the morning session read and approved.

The discussion on the "rubber question" was then resumed.

Dr. J. Taft laid before the Association the result of his trip to New York. This will probably be placed before the profession in full at another time.

Dr. Keely was called upon to give some of his experience upon the somewhat extensive tour he took in relation to the "rubber interest." to which he responded in a very happy manner.

Dr. J. Taft presented the following resolutions, which were adopted:

*Whereas*, Dr. I. J. Wetherbee, of Boston, Mass., has, in our opinion, done all in his power to resist the unjust and extortionate demands of the "Goodyear Dental Vulcanite Co.," thereby involving himself to a serious extent; therefore, be it

*Resolved*, That the whole Dental Profession is under deep obligations to Dr. I. J. Wetherbee for the effort he put forth



in contesting the suit brought against him by the Dental Vulcanite Co.

*Resolved*, That we raise funds to the amount of \$800, (eight hundred dollars,) to relieve Dr. Wetherbee of the financial burden occasioned by the recent trial.

On motion, a vote of thanks was tendered to Dr. George W. Keely for his services in collecting funds for the Protective Association.

On motion, the names of the members of the Association were called, giving each one the opportunity to state the amount he was willing to contribute to the Wetherbee Fund.

On motion, Dr. J. Taft was appointed to take charge of the above fund.

Adjourned until to-morrow morning, at 9 o'clock.

#### THURSDAY MORNING, JANUARY 17.

Association called to order. Minutes read and approved.

On motion, Dr. Rehwinkel was added to the Committee on Instruments and Appliances.

The Report of the said Committee was then taken up :

*Gentlemen*:—Your Committee on Instruments and Appliances beg leave to present to you the following list of instruments placed in their hands for examination :

One Automatic Plugger, invented and manufactured by Dr. W. G. Redman, of Louisville, Ky. This instrument shows the skill of an ingenious mind, and is a very handsome instrument; and would be an ornament to the table of any operator.

One Automatic Plugger, from Dr. Poor, of Dubuque, Iowa. This is the most simple and easily used—giving almost, if not quite, the peculiar blow of the mallet itself.

One Automatic Plugger, invented by Dr. George F. Foote, of New York city. This instrument is so well described in the *Dental Cosmos* as to need no comment from us.

A lot of instruments and appliances presented by Dr. S. D. Palmer, and manufactured by S. S. White, of Philadelphia. Among these are a set of Rubber Buff Wheels, for polishing rubber plates.

An Articulator, made of brass, and double jointed, giving all the movements necessary for obtaining and maintaining correct articulations.

A set of one dozen Chisels, from patterns furnished by Dr. Darby. These are doubtless very useful instruments.

A set of Pluggers, from patterns devised by Dr. Isaiah Forbes, of St. Louis, Mo. The merit claimed for these consists in the peculiar curvature of the working ends. The serrations are well defined, and, altogether, seem to be very desirable instruments.

A set of Dr. C. Palmer's Nerve Instruments. These are familiar to every progressive Dentist, and so highly approved by their almost universal use, that we deem it unnecessary for us to dwell upon them further.

The last upon our list is a Speculum and Duct Compressor. This is one of the most valuable improvements we have ever seen, and answers the purpose for which it is intended admirably. This instrument once upon the operator's table will ever be considered a most faithful accessory. Dr. E. Bradley, of Dayton, Ohio, is the inventor of the above instrument.

C. H. HARROUN,  
W. R. LILLY,  
F. H. REHWINKEL, } *Com.*

By a unanimous request of the Society, Dr. C. H. Harroun gave a most excellent description of his method of artificial restoration of the palatal fissures. Dr. Harroun has evidently devoted much time and profound study to this specialty of Dental Science; not studying, to copy from others, but originality in his appliance. From his effort, we have a far simpler appliance than any yet before the profession. The Doctor's effort and success has placed him in a position not inferior to that of the discoverer.

Dr. W. M. Herriott, of Zanesville, presented to the Association a case in which he supplied an artificial nose, upper lip, and nearly all of the superior teeth. The operation was certainly a remarkable one, and it is hoped that Dr. Herriott will lay the case before the profession in detail.

Bills presented by Drs. J. Taft, A. W. Maxwell, and W. P. Horton, were approved, and ordered paid.

The following was offered by the Committee on Membership :

The Committee on Membership beg leave respectfully to report, that in addition to the names of the gentlemen recommended for membership, there are several applications of gentlemen who are not, and were not present themselves. We recommend that these cases lay over until our next meeting, when they must be present in person for examination.

There are several applications of gentlemen for membership who are not at this time eligible; and upon recommendation of your Committee, they were declared honored guests of this Society, and all courtesies extended to them. No further applications having been presented to the Committee, they beg leave to be discharged.

M. DECAMP, J. B. BEAUMAN, F. H. REHWINKEL,	}	Com.
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Accepted and the Committee discharged.■

On motion, Dental Education and Dental Ethics were made the special order for the fore part of the afternoon session.

Adjourned until 1½ P. M.

#### AFTERNOON SESSION.

Association called to order. Minutes read and approved.

On motion, it was

*Resolved*, That the next semi-annual meeting of the So-

ciety be held in Columbus on the first Tuesday of June next.

On motion, the Code of Ethics as adopted by the American Dental Association was substituted for the one formerly adopted by this Society.

It was resolved to have the Code stereotyped, with such other matter as Prof. J. Taft (into whose hands the duties of the work were placed), might deem advisable; and that the Association defray the expenses so incurred.

On motion, the regular order of business was suspended, and miscellaneous business and discussions announced in order.

The bill for use of hall was presented, approved, and ordered paid.

The Society resolved to make a donation of ten dollars to the Young Men's Christian Association of this city.

The President announced the following Committees for the ensuing year:

*Executive Committee.*—Drs. L. Buffett, W. M. Herriott, J. B. Beauman.

*Committee on Membership.*—Drs. F. H. Rehwinkel, M. DeCamp, B. T. Spelman.

*Publication Committee.*—Drs. Will. Taft, H. A. Smith, N. W. Williams.

*Dental Ethics.*—Drs. J. Taft, J. W. Rhodes, F. H. Rehwinkel.

The discussions of the afternoon were of a social rather than a professional character. Individual office experiences were given, and created much amusement; and thus the afternoon session formed a very pleasant ending to a pleasant session.

Adjourned to meet in Columbus on the first Tuesday of June next.

WILL. TAFT, *Secretary.*

TRANSACTIONS OF THE CENTRAL STATES  
DENTAL ASSOCIATION.

THE Fourth Annual Meeting of the Central States Dental Association, was held in the City of Louisville, Ky., on Wednesday, Thursday, and Friday, December the 26, 27, and 28, 1866.

## FIRST DAY, MORNING SESSION.

The Association met at the Lecture Room of the Kentucky School of Medicine Buildings, at 10 o'clock, A. M. There not being a quorum present, the Society adjourned to meet at the office of Dr. Redman at 2½ o'clock, P. M.

## FIRST DAY, AFTERNOON SESSION, 2½ O'CLOCK, P. M.

The roll was called, and the following members answered to their names: Drs. S. Driggs, W. G. Redman, J. H. Bedford, W. H. Shadoan, E. W. Mason, W. D. Stone, J. F. Canine, G. W. Jones, J. A. McClelland, G. W. Fields, W. H. Goddard, and at a later period, R. H. Wilson, W. F. Morrell, E. Q. Naghel, G. B. Fittz, H. S. Saunders, C. E. Dunn, and J. F. Lampkin.

The minutes of the previous meeting were read.

On motion, Dr. Goddard was elected to fill the vacancy in Executive Committee.

The name of Dr. Francis Peabody was presented for membership, and referred to the Committee on Membership.

Dr. Goddard, one of the Committee on Membership, was excused at his own request from acting in this case, and Dr. Mason appointed in his stead.

The Executive Committee, whose duty it is to procure a place for holding the meetings of this association, made the following report:

The Executive Committee would report that they had secured the room now occupied by Mr. Myers, in the Kentucky School of Medicine, at an expense of four dollars per day, and one dollar additional for night meetings. W. H.



Shadoan, Chairman. On motion, the report was received and adopted.

On motion, That this Association hold their present sittings in the offices of the Dentists of the City. Adopted.

Dr. Shadoan announced the death of Dr. James L. Nourse, a member of this Association, whereupon the following committee was appointed to draft suitable resolutions as the sense of this Association. E. W. Mason, W. H. Shadoan, W. H. Goddard, committee.

On motion, It was voted that this Society hold three sessions each day. To convene at 9 o'clock, A. M., and at  $2\frac{1}{2}$ , and 7 o'clock, P. M.

On motion, adjourned to meet at the office of Dr. Bedford at 7 o'clock, P. M.

#### FIRST DAY, EVENING SESSION, 7 O'CLOCK.

Minutes read and approved.

Dr. Driggs, the President, in the Chair.

The Executive Committee would beg leave to make the following report on subjects for discussion during this meeting:

1. Decay in Children's Teeth—Cause and Prevention.
2. Decay in Adult's Teeth—Cause and Prevention.
3. Irregularities—Causes and Prevention.
4. Miscellaneous.

On motion, the Association will have clinic operation at 10 and 3 o'clock each day.

The first subject, Decay in Children's Teeth, Causes and Prevention, was then taken up and discussed.

The Committee on Membership reported the name of Dr. Peabody as a suitable person to become a member of this Society.

Whereupon a ballot was had, resulting unanimously in his favor.

Adjourned to meet at the office of Dr. Canine at 9 A. M. on to-morrow.

SECOND DAY, FORENOON SESSION, 9½ O'CLOCK.

Minutes read, corrected and adopted.

After some desultory remarks, the President announced the time of selecting the place of holding the semi-annual meeting.

On motion of Dr. Lampkin, Lexington, Ky., was selected.

On motion the first subject, decay in children's teeth, causes and prevention, was then taken up and finished.

The second subject, decay in adult teeth, was then taken up and discussed at considerable length.

Adjourned to meet at the office of Dr. Goddard, at 2½ P. M.

SECOND DAY, AFTERNOON SESSION, 2½ O'CLOCK.

Minutes read and approved.

A letter was read from Dr. Rogers, of Shelbyville, expressing regrets at not being able to attend the meeting, on account of sickness, &c.

The hour for holding the election of officers having arrived, on motion, it was postponed until after the clinic.

The members then indulged in witnessing a clinic operation by Dr. McClelland, which was watched by all present with deep interest.

Dr. G. W. Acree, of Memphis, Tenn., was then introduced, who presented the following certificate from the Memphis Dental Association, which was read and referred to the Committee on Membership. The certificate reads as follows:

MEMPHIS, TENN., Dec. 5, 1866.

This certifies that at a regular meeting of the Memphis Dental Association, held on the eve of the 4th inst., Dr. G. W. Acree was elected a Delegate to represent this Society in the Convention of Dentists, to assemble in the city of Louisville, on the 26th inst.

Attest:

L. W. FLETCHER, Sec'y.

The Committee reported upon the certificate, and recommended Dr. Acree as a suitable person to become a member.

The clinic being over, the Society went into an election of officers for the ensuing year, which resulted as follows :

President—Dr. W. G. Redman, of Louisville;

1st Vice President—Dr. E. W. Mason, “

2d Vice President—Dr. W. H. Goddard, “

3d Vice President—Dr. J. A. McClelland, “

Secretary—Dr. W. H. Shadoan, “

Cor. Secretary—Dr. J. F. Canine, “

Treasurer—Dr. R. H. Wilson, “

Drs. Goddard and Stone were appointed a committee to conduct officers to their place.

A ballot was then had for Dr. Acree for membership, resulting in his favor.

Adjourned to meet at Dr. Shadoan's office, at 7 o'clock P. M.

#### SECOND DAY, EVENING SESSION, 7½ O'CLOCK.

President Redman in the Chair. Minutes read and approved.

The President appointed the Standing Committees :

Executive Committee—Drs. J. Taft, E. W. Mason and S. Driggs.

Committee on Membership—Drs. Goddard, McClelland and Acree.

The second subject was then taken up and further discussed by Drs. Stone, Taft, McClelland, Canine, and others.

On motion, Exposed Pulps were discussed, several members taking part.

On motion, the subject was closed.

The resolution fixing Lexington as the place of holding the Semi-Annual Meeting in April next, was reconsidered. After some discussion, of an explanatory character, Memphis, Tenn., was selected.

Adjourned to meet at the office of Dr. McClelland at 9 o'clock, A. M., on to-morrow.

THIRD DAY, FORENOON SESSION 9 O'CLOCK.

President Redman in the Chair. Minutes read and approved.

The 3d subject, Irregularity of the Teeth, was then taken up and discussed.

On motion, the subject was discontinued and the claims of the Goodyear Dental Vulcanite Company was considered.

Dr. McClelland read an Essay on Dentrifices. A vote of thanks was tendered the Dr. for his essay, and a copy requested for publication.

The meeting adjourned to meet at the office of Dr. Wilson, at 2 o'clock, P. M.

THIRD DAY, AFTERNOON SESSION, 3 O'CLOCK.

Dr. Goddard in the Chair; Dr. Field, Sec'y. *Pro. Tem.*

On motion of Dr. Acree, a Committee was appointed to draft resolutions on the death of Dr. A. M. Leslie, of St. Louis, who died in Memphis in November last.

The Committee consisted of Drs. Acree, McClelland and Naghel.

The Committee appointed to draft a petition praying for suitable protection against Dental Quackery, which is as follows, viz :

*To the Honorable the Legislature of the State of Kentucky :*

Your petitioners would respectfully represent that Dental Surgery being a specialty of the healing art, requires for its proper performance a knowledge of Anatomy, Physiology, Pathology, Therapeutics, Chemistry, and the theory and practice of Surgical and Mechanical Dentistry. The acquisition of a knowledge of these different branches requires at least two years of close application to study, with competent instructors.

Not until we are enlightened upon a subject can we appreciate the importance that attaches to it, and as the public have no means of judging between the competent and incompetent Dentist, they should, in justice, have some guaranty of qualification.

While the older and leading practitioners of Dental Surgery acknowledge THEIR NEED OF MORE LIGHT the people of this Commonwealth are being grossly imposed upon by the MEREST PRETENDERS to Dental science, without possessing a knowledge of the first principles requisite to its successful practice; hence much suffering, discomfort and ill-health results that might and should be averted.

Your petitioners, therefore, respectively pray your honorable body to protect the citizens of the Commonwealth of Kentucky from injury by incompetent Dental practitioners, by such enactments as in your wisdom you may deem sufficient.

S. Driggs, W. H. Goddard, W. G. Redman, J. A. McClelland, W. H. Shadorn, E. W. Mason, *Committee*.

W. M. Rogers, J. W. Baxter, A. S. Talbert, J. F. Canine, G. S. Jones, H. Baldwin, Samuel Griffith, F. Peabody, W. D. Stone, R. C. Morgan, H. McCullum, J. H. Bedford, J. G. Van Marter.

The Committee then reported a Bill which was adopted and is as follows, viz:

*A Bill to Regulate the Practice of Dentistry in the State of Kentucky.*

SECTION 1. Be it enacted by the General Assembly of the State of Kentucky, That after the first day of January, 1868, it shall be unlawful for any person to practice Dentistry in the State of Kentucky, unless such person has received a diploma from a faculty of a Dental College duly incorporated under the laws of this or any other State of the United States, or a certificate of qualification from the State Board of examiners hereinafter specified.



SEC. 2. Said board of examiners shall consist of three practitioners of Dentistry, possessing the evidence of qualification contemplated in this Act. They shall be appointed, and vacancies filled by the Governor, by and with the consent of the Senate.

SEC. 3. The board of examiners shall serve for a term of three years, and until their successors are installed, except the members of the first board, one of whom shall serve for one year, one for two years, and one for three years.

SEC. 4. The board of examiners shall meet at least once a year for the purpose of examining applicants; after having giving at least sixty days notice of such meeting in some newspaper of general circulation throughout the State. They shall also have power to make such arrangements as shall be necessary for the prompt and efficient performance of their work as such examiners.

SEC. 5. Any one member of the board of examiners, on a satisfactory examination of applicant, shall grant him permission to practice until the regular session of the board.

SEC. 6. Each applicant shall, on receiving a certificate, from the board, pay into the treasury the sum of 10 dollars, which fund shall be used by the board for the benefit of the Dental profession in the State.

SEC. 7. Any person who shall practice Dentistry without having complied with the requisitions of this Act, shall, for each offence, be deemed guilty of a misdemeanor, and upon conviction thereof, shall be fined not less than ten dollars, nor more than fifty dollars; provided that nothing in this Act shall be construed to prevent physicians and surgeons from extracting teeth.

SEC. 8. All prosecutions under this Act shall be by indictment before the circuit court in the county where the offence shall have been committed, and all fines imposed and collected under this Act, shall be paid into the treasury of the county where such conviction shall take place, for the use of the common schools within such county.

SEC. 9. This Act shall take effect and be in force from and after its passage.

On motion, the Committee was discharged, and the following gentlemen appointed to carry into execution the design of the petition. Drs. Driggs, Mason, Shadoan, McClelland and Goddard.

The Treasurer made his Report which is as follows:—  
[Report did not come to hand.—EDITOR.]

Drs. Goddard, Naghel and Jones were appointed to audit the report; who, after a few minutes absence, reported that they had examined his report and found it correct.

Signed Goddard, Naghel and Jones.

The Committee appointed to draft Resolutions expressive of the sense of this Society on the death of Dr. A. M. Leslie, made the following report, which was adopted.

On the announcement of the death, in Memphis, of Dr. A. M. Leslie of St. Louis, the Central States' Dental Association, now in session in Louisville,

*Resolved*, That in the death of Dr. Leslie, the Dental profession has lost a worthy co-laborer. Though not actively in practice for the last few years, he ever maintained a lively interest in the progress of Dental science, and was always foremost in furnishing such material devices as the profession most required.

*Resolved*, That the bereaved friends and family have our warmest sympathy.

G. W. ACREE, J. A. MCCLELLAND, E. Q. NAGHEL,	} <i>Committee.</i>
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Adjourned to meet at the office of Dr. Mason, at 7 o'clock,  
P. M.

THIRD DAY, EVENING SESSION.

Minutes read and approved.

Miscellaneous subjects taken up. The question of the demands of the Goodyear Dental Vulcanite Company. After

nearly all expressing their disapproval of the course of the company, the following resolution was offered by the Secretary, which, after some slight amendments, was adopted:

*Resolved*, By the Central States Dental Association, that we feel it to be the duty of all Dentists to act in conjunction with others in resisting the demands of the Goodyear Dental Vulcanite Company, believing, as we do, that their terms are unreasonable and unjust, and ought to be resisted.

The Committee appointed to draft suitable resolutions on the death of one of our members, Dr. Nourse, made the following report, which was adopted:

Resolutions of respect on the death of Dr. J. L. Nourse:

WHEREAS, It has pleased an allwise and inscrutable Providence to remove from our midst and from this Association by death, our much esteemed friend and brother, Dr. J. L. Nourse, of Cloverport, Ky., in August last; therefore

1. *Resolved*, That in the death of Dr. Nourse, that we, as a body, and those of us who were more intimately acquainted with him, have lost a valuable member, and true friend.

2. *Resolved*, That in the death of Dr. Nourse, society has sustained an irreparable loss, and the Dental profession one of its best members.

3. *Resolved*, That of Dr. Nourse we will cherish the fondest recollections, and the most profound respect.

4. *Resolved*, That we deeply sympathize with his friends and his aged parent in particular, in their bereavement.

5. *Resolved*, That these resolutions be published with the minutes of this Association in the DENTAL REGISTER.

E. W. MASON, }  
W. H. SHADOAN. } *Committee.*

Notice is hereby given that at the next Annual Meeting, a resolution will be offered in regard to the propriety of changing the time of holding the meetings of this Society.

On motion of Dr. Driggs, a vote of thanks was tendered

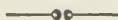
Dr. Field, the retiring secretary, for his services and for his report of discussions at the last meeting.

Resolved that a vote of thanks be tendered all the retiring officers, and Dr. Driggs in particular, for the able manner in which he presided over the Society.

Dr. Driggs then made some excellent remarks in reference to the advance that Dentists should take as professional men; that this Society should elevate the standard, and live up to the highest advance.

Adjourned to meet in the city of Memphis, Tenn., on Tuesday, April 9, at 10 o'clock A. M., 1867.

W. H. SHADOAN,  
*Secretary.*



### DENTAL MEETING.

LOUISVILLE, KY., March 1st, 1867.

*Dear Sir:—*The Third *Semi-Annual Meeting* of the CENTRAL STATES DENTAL ASSOCIATION will be held in the City of Memphis, Tenn., commencing on Tuesday the 9th of April, 1867, at 10 o'clock, A. M.

Your attendance is earnestly requested.

W. H. SHADOAN,  
*Secretary.*

## Editorial.

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### DENTAL EDUCATION.

The accompanying "Resolutions" and suggestions have been issued by authority of the American Dental Association. It may be justly regarded as the sentiment of any truly professional man—of any one who has the progress and welfare of his profession at heart.

We would direct special attention to the extension of time of pupilage, and the classification of studies recommended. Formerly, two years were regarded as sufficient length of time for the Dental student to complete his course of study. There are upon the records of many societies, resolutions to this effect. But within the past few years a change has taken place, so that now many societies have made declarations in favor of an extension of time, and most of them, to the term of three years. This is doubtless a move in the right direction; though some students may be able to pass over the present prescribed curriculum in two years of close study, yet there will be many who fail to accomplish what should be done in three years, or even four. Three years is now regarded as the shortest average time practicable.

A point of almost vital importance is contained in the words, "He must possess at least a good English education."

The Dental profession has suffered perhaps more from the deficient education of its members, and those seeking to become its members, than from any other cause; and yet young men who are sadly deficient, yes, almost wholly wanting in a literary education, are encouraged and assisted to enter the ranks of the profession, by those of whom we should expect better things, and who are certainly conscious that they are inflicting a grievous outrage upon their chosen profession. But the question is asked, may not a man who is not possessed of a good education, be a good Dentist? Such an one may become by practice a good manipulator, but that will be based upon practice and experiment, and not upon a knowledge of principles. No one who is ignorant of his own language, which is the means of conveying ideas, can profitably investigate or study science. In the healing art,



the most thorough study and investigation of very profound subjects are necessary.

Again, any professional man must possess a good education, to command respect and influence in society. The ignorant pretender always deserves, and usually receives the scorn and contempt of the enlightened public.

The suggestions in regard to the classification of studies is a matter of the utmost importance, especially when considered in reference to a course of study in a Dental college.

All who have been engaged in teaching know full well that it is wholly impossible to study with profit nine or ten distinct subjects at the same time, and yet such is the attempt in the ordinary course of instruction in our Dental colleges.

The proper classification and arrangement of the different branches of the course, has been one of the greatest defects in our system of education, both in the private office and in the schools; and though the classification suggested here is not just what we think it should be in the Colleges, still it is a great step in the right direction; and perhaps is about right for private study. Four or five distinct subjects are as many as *any* one can manage at once. The stuffing method heretofore pursued, does injustice both to the student and to the profession, and should at once be abandoned, and a more rational course be adopted.

It affords us much gratification to state that these suggestions are being very numerously endorsed by the profession.

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THE AMERICAN DENTAL ASSOCIATION, at a meeting held in Boston, beginning July 31st, 1866, passed the following Resolution:

*Resolved*, 1st. That a Committee of three be appointed to draft suitable suggestions upon the subject of accepting students, and that such suggestions be printed in circular form for the consideration of every Dental practitioner in the United States.

"2d. That the expense of such printing and distribution be borne by the Association."

The undersigned, the Committee appointed according to the provisions of the above Resolution, are fully persuaded that the time has now arrived when every Dental practitioner in the country can and should lend his aid in elevating the status of the

profession, to the end that those who are soon to fill our places, may be prepared in a greater degree, to fulfill the reasonable expectations of the public and hold Dentistry in its proper rank among the learned professions.

Our Dental colleges have done much, and will doubtless do more, but there is a work for the private instructor to accomplish, that students may be better qualified to enter such collegiate institutions and graduate with credit to themselves and honor to the profession. It is not only essential that Dental colleges exist, but they should be furnished with properly qualified pupils to ensure that success and usefulness contemplated in their foundation.

Relying, then, upon the generous co-operation of our professional brethren, we respectfully submit the following "suggestions" as a basis in "accepting Dental students:"—

1st. He must possess a good moral character and at least a good English education.

2d. He must be required to apply himself diligently for three years, including two full courses of lectures in some Dental college, to the following studies, viz. :—

*First Year*—ANATOMY, HISTOLOGY AND PHYSIOLOGY.

*Second Year*—PATHOLOGY, CHEMISTRY, METALLURGY AND MECHANICAL DENTISTRY.

*Third Year*—OPERATIVE DENTISTRY, SPECIAL PATHOLOGY, DENTAL MEDICINE AND MICROSCOPY.

We further suggest that the instructor examine his pupil in his studies at least twice in every week, and as much oftener as may be convenient,—not, however, including his lecture terms; and should the student, after sufficient trial, fail to exhibit the necessary talent for our specialty, he should be kindly apprised of the fact, and advised to seek other fields of usefulness.

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Practitioners favoring the foregoing are respectfully requested to date and sign the accompanying paper, and forward to the Committee.

A. LAWRENCE, LOWELL, MASS.  
C. P. FITCH, NEW YORK CITY.  
J. TAFT, CINCINNATI, OHIO.

*January 10th, 1867.*

# THE DENTAL REGISTER.

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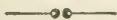
VOL. XXI.]

MARCH, 1867.

[No. 3

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## Original Communications.



ADDRESS TO THE GRADUATING CLASS OF THE  
OHIO DENTAL COLLEGE, May 6th, 1867.

BY JOS. RICHARDSON, M. D., D. D. S.

*Gentlemen of the Graduating Class:*—The friendly partiality of the faculty has assigned me the agreeable duty of addressing to you this evening, a few words of congratulation on the completion of your collegiate course, and of salutation on your entrance into the profession, clothed as you now are with all the rights, dignities, and immunities conferred by the degree of Doctor of Dental Surgery. I esteem it a privilege of no ordinary character, that of greeting you upon the very threshold, and saying to you, in behalf of the faculty, and of the profession: Welcome to the brotherhood of Dentistry.

In conforming to this customary and somewhat formal mode of extending to you assurances of good-will and hearty fellowship, we desire especially, that you will accept our fraternal protestations, not in the sense of mere conventional civilities, but as expressions of unstudied, earnest and warm-hearted greeting. The occasion which ushers into the profession, men fully impressed with a just sense of its grave responsibilities, and adequately qualified to discharge credita-

bly its varied and important duties, has always been esteemed one of peculiar interest ; but never more than now, perhaps, has been invested with greater significances, or more gratefully accepted by all good men with sentiments of more profound approbation and satisfaction.

While we are not insensible of the fact, that material and encouraging progress in all that relates to the resources and capabilities of the art and science of Dentistry has been made, and that intelligent, earnest and wisely-directed efforts have steadily contributed to render our calling more and more a blessing to mankind ; yet it may not be unprofitable at this time, to familiarize ourselves with the indisputable fact, that at no previous time has the profession suffered more cruel wrongs at the hands of adventurers and incompetents, than now. You will all soon realize this unpalatable truth, in the respective localities which you may severally choose, be they where they may throughout this broad land. So fruitful is the field of Dental practice in opportunities for downright swindling, and so comparatively secure from public reprobation, and legal accountability are the miscreants who seek this field for purely mercenary ends, that quacks will always flourish, and fatten, and preponderate, at least until a higher order of intelligence and discernment prevails among the masses, than is likely to in this nineteenth century, or until the majesty of the law is invoked to shield the people, and guard the temple of our art and science, from desecration and outrage.

Contemplating the magnitude of the evils inflicted upon the highest interests of the profession, and the unspeakable wrongs entailed upon the people, by miserable wretches, who having no conceivable morals, mental or educational qualifications for the practice, are hourly prostituting Dentistry to the most unworthy and dishonorable purposes, is it at all singular, that those who are jealous of the fair name of the profession, and who are striving with more than ordinary



singleness of purpose to make it honored and respected among men, should regard with exultation, occasions like this, which yearly contribute to that profession new life and hope, or that they should greet with unaffected pride and satisfaction, these annual accessions to the ranks of the faithful.

It was a just and conscientious estimate of duty, as men answerable to God and society, that led you to seek the advantages of this institution. It was an honorable ambition, alike creditable to your heart and manhood, that directed your steps to this sanctuary of learning, that you might fortify yourselves for the better discharge of your assumed obligations in the coming time. It was a laudable and worthy motive, that prompted the dedication of time and means, that you might hereafter win your way to honorable distinction among your fellows, by laying the foundation of success here.

We should be most happy, gentlemen, if we could impart to you the comforting assurance, that your just claims to the confidence and support of the people, will meet with a ready and unquestioned recognition, but we cannot, knowing that you will have to fight your way inch by inch with those who are not only disqualified by nature and education for the practice, but who are unscrupulous in the choice of means to render their pretensions successful. It is indeed a sorrowful and humiliating reflection, that you, who have been so carefully nurtured here in this school, and who have so worthily responded to the uttermost demands of the profession, should be exposed hereafter to the unworthy competition of upstart Dentists, a score of whom will confront you at every point, with their spurious claims to public confidence and patronage. It is a sense of this great and palpable wrong, that has of late moved the profession, almost as one man, to seek protection in prohibitory legislation. Believing that you will all recognize the obligation to contribute the weight of your influence in behalf of some measure contem-



plating this object, we trust you will indulge us if we devote a portion of our time this evening to a brief consideration of this subject.

Bills, differing somewhat in detail, but embracing the same general features, have been submitted to the legislatures of several of the States. Those of Ohio and Indiana prescribe that no one shall be deemed competent to practice Dentistry, except those who are graduates of some regularly incorporated Dental college; those who have been ten years in reputable practice; or those holding a certificate of qualification, from a board of examiners, appointed by the Governor of the State.

It would seem almost a work of supererogation, to advocate the claims of such a law before an assemblage of Dentists, and it is only in the hope that we may be mutually strengthened in its advocacy before the legislative bodies, that we are tempted to enter upon its discussion at this time, trusting we may be able to present some thoughts that may hereafter aid you in prosecuting the objects contemplated in the proposed law.

That certain misapprehensions, fatal to the success of such a measure, exist in the minds of many of our most intelligent representatives, we recently had convincing proof in the action of one of the Committees, to whom the bill was referred in the Legislature of Indiana. After a brief consideration, it was reported on adversely, and was only saved to us, at the instance of a friend of the bill, by a motion to lie upon the table. The Chairman of the Committee, a very courteous gentleman, and one of the ablest jurists of the State, having been afterwards advised that a number of the representative Dentists of the State, desired to say something in its defence, very promptly asked of the Senate the privilege of having the bill re-committed for the purpose of a hearing, which was granted. By appointment, a number of the leading practitioners from different parts of the State, appeared before the Committee, and after a patient and respectful hearing, we

received, at the close of the conference, the gratifying assurance, that not only every member of the Committee, but the President of the Senate, who was present by invitation, would not only cordially vote for the measure, but advocate its passage in the Senate.

We have, unwarrantably perhaps, introduced this expose of our domestic affairs across the line, for the sole purpose of showing how nearly misapprehensions of the nature and character of our demands, subsequently corrected, came to losing us all chances of success, and for the farther purpose of illustrating the efficacy of direct means, or, in political parlance, of lobbying.

The chief misapprehension to be met with, and the one which in the first instance led to unfavorable action in our own case, is that of confounding the practice of Dentistry with general medicine, in their relation to the question of legal protection. It was claimed that inasmuch as the practice of medicine was as much exposed to the evils of quackery as that of Dentistry, and as the former was not protected or regulated by law, that *therefore*, it would be unjust and inexpedient that prohibitory enactments should be granted in favor of the latter. Now, in the first place, this objection is neither fair nor just to us since the denial of the right of protection in respect to Dentistry is predicated on the assumption, that such legislation has been *rightfully* withheld from the medical fraternity—an assumption that may be fairly challenged. Hence the *therefore* in the proposition does not either fairly or logically follow.

But we put our answer to the objection on other and more tenable grounds. Prohibitory legislation, as affecting the practice of medicine, has always, if we mistake not, been asked for in the interests of some particular school or system of medicine; and it is precisely here that such enterprises have shipwrecked, and it may be thought by many properly enough. Wide differences of opinion, both in theory and practice, obtain in all these systems. Many of them are, in

this respect, radically diverse and irreconcilable. Each has its adherents and patrons among the masses, and a *monopoly* of any one in privileges must always, in the very nature of things, be regarded as a clear invasion of the inherent and natural right of the people to choose between them. Dentistry, on the contrary, presents an entirely different aspect. In its theory and practice, there is almost absolute unity and homogeneousness. There are no rival schools or systems based on differences of opinion either in theory or modes of practice. Teeth are neither inserted, filled or extracted homeopathically, allopathically or hydropathically; nor is there, we believe, distinctive modes of treating diseased conditions of these organs and their associated parts, as respects *systems* of medication. Prohibitory legislation, affecting Dental practice cannot, therefore, in any sense, be construed as favoring a monopoly. Under the terms of the bills presented, the question narrows itself down to one of simple competency or qualification, and the passage of such a law could not be regarded as *class* legislation, except as against quacks, whom it is especially designed to legally disqualify.

There is another obvious distinction between medical and Dental practice as they affect the interests of the people. Almost every neighborhood and village throughout the country has its physician, and his competency or incompetency is, in a great measure, determinable by the general success which attends his ministrations. The means employed by him are ordinarily exposed to the tests of common experience and popular familiarity with generally approved modes of medication in prevailing forms of disease, at least, and this popular and conservative intelligence must always, in some measure, act as a check to any flagrant abuse of the patient by quacks.

Another circumstance affording security to the patient, lies in the fact that, in all cases demanding medical aid, the supposed or actual failure to effect a cure or afford relief by the attending physician, may be redeemed by the advice and

co-operation of counsel. The chances of securing the best results are not only thus improved, but threatened dangers to the patient by an incompetent who may have succeeded in imposing upon his confidence, may thus be averted by the timely interposition of some one more skilled. Nor does the interests of the profession itself suffer materially by the services of unauthorized persons; for in the matter of life and death, the failure of a medical man affects only his own individual reputation for skill—the faith of the people in the virtue and efficacy of medication remains fixed and unchanged.

Now, how is it in Dental practice. Resident Dentists are usually found congregated in more populous places, and patients must frequently go beyond the limits of their familiar acquaintanceship to seek among strangers the services they need. These services do not relate distinctly to the issues of life, and laboring under the belief, as many persons well informed in other matters do, that the scope and capabilities of Dentistry are comprehended chiefly in the operation of “pulling” teeth and inserting artificial ones, they are infinitely less concerned than in the choice of a physician, and fall a ready prey to the arts and seductions of quacks who lie in wait for them. With the numerical preponderance of this class, found in more inconsiderable places, and not unfrequently, perhaps, in others that aspire to metropolitan distinction, the chances are that these patients will be “taken in and done for” by some scurvy fellow whose chief distinction and highest mission it is to systematically mar and deface God’s image. Let us for a moment contemplate the treatment of one of these unfortunates, taking it as a type of the usage experienced at the hands of this class.

To the practiced judgment of a skilled and educated Dentist, the case is one clearly amenable to proper treatment. One, two or three, or a half-dozen or more teeth are carious;



there is some discomfort from sensitive dentine; exposure of a nerve, perhaps; tooth-ache; abscess, if you please. Ignorant of the capabilities of his art, or deliberately prostituting his acquirements, whatever they may be, to the ignoble purposes of larger profits, the unscrupulous fellow unhesitatingly condemns all the affected teeth, and unblushingly advises their indiscriminate extraction. Now, how utterly powerless and defenceless is such a patient in the hands of a man like this? Wholly uninformed of the means of relief within his reach he uncomplainingly submits to this merciless and unjustifiable act, and in all probability goes down to his grave hopelessly mutilated and unconscious of the foul wrong which has been done him. All evidences that would lead to conviction of guilt are forever veiled from the knowledge of mortals, and the consciousness of outrage, if any exists, lies buried in the breast of him who perpetrated it; and not until the last trump shall summon all men to final judgment will *accountability* be fastened upon the guilty. All evidences have perished with the sacrifice of these teeth, for who shall ever afterwards make good the accusation of malpractice against the wrong-doer? He has taken refuge in the murderous maxim, "dead men tell no tales," and there is neither remedy nor reparation. Unlike the sick room, no cry of "save me!" comes up from the patient in the hour of mortal terror, as life trembles in the balance. No reminder of accountability, conveyed in the sorrowing appeals of afflicted relatives, stays for a moment the sacrilegious hand, or awakens the conscience of the destroyer. No friendly suggestions or expressions of solicitude, volunteered by anxious friends and neighbors, warn him of the perils of failure in his duty; but like Macbeth, stealing with bloody intent into the chamber of the unconscious and confiding king, he lifts unseen his treacherous hand to execute violence upon a fellow being confiding in his truth and manhood, and in the privacy and solitude of his office, there is no eye to witness the criminal sacrifice of



priceless organs, or voice to cry out against "the deep damnation of their taking off."

We have said that, as respects the interests of the profession, a physician's failure in his duty to patients affects only his individual reputation for skill. The profession of which he is a recognized member, suffers but little, if any, from his defection, for the faith of the people in medication remains comparatively unchanged, and they will be found industriously casting about for better services whenever their confidence has been betrayed or abused. Now, next to the overshadowing criminality of condemning and sacrificing teeth that might readily be redeemed and made serviceable for life, is the odium and mischief entailed upon the profession by habitually worthless and unskillful operations upon the teeth, performed ostensibly for their preservation. A physician may grossly maltreat a patient, and yet that very patient's faith in the efficacy of medication remain unshaken and unimpaired, but let him once be victimized in the matter of having his teeth filled, and the chances are that he will infect a whole neighborhood with the belief that there is no saving virtue in the operation whatever. The more uninformed portion of the people have a sort of *leveling* mode of estimating the acquirements of Dentists, and the capabilities of one are taken as a fair measure of the capabilities of the whole, and from these premises they logically enough infer that the failure of one carries with it the presumption of incapacity on the part of all. Thus any shabby fellow, with just brains enough to eat when he is hungry, may, and in countless instances does, bring into disrepute one of the most important and valuable operations in Dentistry, and every miserable abortion palmed off on the community by quacks is reflected back upon the profession to the prejudice of legitimate practice, and the humiliation, discouragement and disgust of every man, conscious of the capabilities of his art, or jealous of the respect and consideration due to himself and his calling.

We might multiply these proofs of a want of parallelism between medical and Dental practice, as they relate to the question of legal protection. What we have already said has been with no purpose of disparaging the claims of the medical profession to that legal protection from the evils of irresponsible practice which we claim for our own. While we have always thought that the best interests of the people might be advanced by wholesome legal restrictions upon the practice of medicine, we have only aimed this evening to demonstrate the yet higher claims of Dental practice to prohibitory enactments.

Speaking for and in behalf of the interests of the people, it might, at first blush, seem somewhat absurd and anomalous that legislative action should be asked which would seem to restrict them in the apparent natural right of exercising their own judgment in the choice of a Dentist, or, metaphorically speaking, of withholding from them the luxury of being burned if they are foolish enough to thrust their hands into the fire. If the masses were qualified to discriminate intelligently between the trustworthy and incompetent, we should uncomplainingly indulge them in the largest liberty of choice; but it is precisely because they are unqualified, as a general thing, to discriminate intelligently, that we advocate the passage of a law which shall stand as a wall of defense between them and imposition. That incompetents are countenanced and patronized because of the ignorance and misapprehension of the people in regard to their qualifications, is susceptible of absolute demonstration. Thus, multitudes employ quacks, but the history of human follies has never yet revealed the fact of any one having employed a quack *because* he was a quack. The employment of such an one, therefore, carries with it the irresistible and self-evident presumption of imposition and fraud; and it is in recognition, not only of the right, but of the obligation to protect the people against the self-infliction of wrong, that law-makers have repeatedly legislated in matters affecting

the purely private concerns of individuals. Lotteries, for example, are declared illegal in many of the States, and thousands of persons, trusting to the false representations of these swindling concerns, who might determine, in the fancied pursuit of their private interests, to invest in such schemes, are humanely restrained in obedience to a higher intelligence which interposes and condemns such enterprizes as fraudulent. If the interests of society demand the interposition of the law to protect its members from fraud in the mere matter of dollars and cents, how much higher the duty and obligation to shield them from consequences affecting their well being for all time. We might multiply examples of this kind, but our limits forbid.

One thought more in conclusion on this subject. Viewing this movement in its bearings on the future interests of the profession, we cannot give it a too profound or thoughtful consideration. We fully recognize associated effort, expressed in general conventions and local societies, as eminently conducive to a better understanding of the principles and practice of Dentistry, and appreciate its influence in developing and enlarging the boundaries of the art and science. All men cordially unite in bearing testimony to the invaluable aids which our schools of Dentistry are yearly contributing to the ranks of the profession. Dental periodicals, as instruments of incalculable good, can hardly be over estimated. But, to our apprehension, all these agencies combined would not outweigh, in future benefits to the profession, the fruits of such prohibitory laws as are contemplated. That they would prove powerfully auxiliary to, and infuse the very essence of life into these several instrumentalities, there can be no reasonable question. Multitudes who are now hanging upon the skirts of the profession would be compelled either to abandon the practice altogether, or to avail themselves of a regular course of instruction under competent direction with a view to an examination, or betake themselves to the schools for the requisite degree. Once

under such influences, there is a rational assurance that they would ultimately become worthy and reputable practitioners, an honor to their calling and respected among their fellows. Gradually the capabilities and resources of legitimate Dentistry would be known and acknowledged among all classes, and our calling would soon command everywhere that distinction among the learned, liberal and humane professions which its advanced condition and glorious achievements entitle it to. Let us hope that a consummation so devoutly to be wished is near at hand.

But we have already detained you too long, perhaps, with the discussion of a subject which may be deemed somewhat foreign to the occasion which has brought us together to-night, and will pass to some thoughts of more personal concern to yourselves.

Having completed your preparatory studies, and received from the faculty of this institution an indorsement of your fitness for the duties of the profession, you will soon disperse to your several fields of labor to assume the responsibilities of a calling in all respects worthy of your best affections and highest capacities. We speak by authority of the faculty, and of the profession at large, when we extend to you the assurance that you will carry with you, wherever you may go, their earnest and prayerful wishes for your future prosperity and success in life. The mutual regrets, natural to the breaking up of agreeable relations and associations, will at least be tempered by the consciousness of reciprocal fidelity in the discharge of duties and obligations incident alike to teacher and pupil. Having occupied for a time similar relations to former classes, we can appreciate the solicitude with which the faculty of to-day will follow each one of you into the uncertain and untried future, the records of which will, in the fullness of time, testify either for or against you, and to the honor or dishonor of the institution that has accredited you. We have an unfaltering confidence that you will remember with affection and grati-



tude your beloved Alma Mater, and that in return for the great benefits received at her hands, your professional lives shall honor her indorsement before all men, and enable her to proclaim with honest pride, "these are my jewels!"

The profession which you have adopted is commanding more and more the respect and confidence of community, but you should ever bear in mind that whatever degree of usefulness or consideration is accorded, it has been the fruit of personal devotion and unwearied labor generously contributed by those who have gone before you. Whatever there is of Dentistry has been handed down to you as a goodly heritage, to be received by you in trust. For such munificence you owe a debt of gratitude, and it should be your fixed and determined purpose to cancel the obligation to the uttermost extent of your abilities and opportunities, and to let your devotion to the honor and interests of your calling be such as shall, in turn, command the grateful acknowledgments of those who shall follow you.

It would be a grave and fatal mistake to go out into the world believing that you had attained to the full accomplishment of all needed acquirements within these walls. The parchments which you hold in your hands testify only to the necessary qualifications for the *commencement* of your professional career. All beyond that is a blank page on which is to be written success or failure. There is no royal road to distinction and usefulness in the republic of science and art, but every man becomes the architect of his own fortune, and must carve his way to respectability and eminence in his profession by such inflexible purposes of self-advancement as shall merit and command success.

As you journey on, every year will add new duties, responsibilities and obligations; for each succeeding year the capabilities of the Art and Science of Dentistry will be gradually unfolding, and the fields of experiment will widen and extend into unexplored regions of investigation, and these will demand continually more enlarged perceptions of



the truths which underlie theories and principles, and more comprehensive aptitudes for those exigencies of practice which are always multiplied by progressive developments in all departments of science and the mechanic arts.

We are not of those who affect to believe that Dentistry, either in the extent of its acquirements or in the beneficence of its ministrations, is the common center around which revolve all other departments of the healing art, but we have a well-grounded conviction that, in the development and maturity of its resources, in the amplitude of its capabilities for good, and in the great diversity of its requirements, it is in advance of many and second to none of the specialties of medical science. If, as is generally conceded, great adaptability of capacities, and a life-time of earnest and studious application are barely sufficient to familiarize one with the complex truths and principles which enter into the practice, and to become expert in the diverse and difficult manipulations at the chair and in the laboratory, there is certainly very little hope of creditable distinction for him whom nature has disqualified, or who cheats himself into the belief that his vocation is a sinecure.

The man who, to-day, would keep abreast with his fellows in that honorable and praiseworthy competition and rivalry which contemplates the largest acquirements and the greatest measure of usefulness, must be industrious in the use of the means within his reach, and subordinate every other purpose in life to the great and central idea of completeness and thoroughness in a knowledge of all that relates to the facts and truths of his profession, and proficiency in the details of its mechanical manipulations. We would not be understood as inculcating the idea that a faithful compliance with the highest requirements of the profession necessarily implies the sacrifice of every other object or interest in life—far from it. We do not think the highest individual achievements in any profession are attained by that abnegation of self which shuts out all sources of employment or diversion

not strictly tributary to the great business of life. Though we admit the force and justice of the maxim that "it is better to wear than to rust out," yet, in submitting ourselves to the former process, we prefer to do so in obedience to the prescribed laws of our being. In the intellectual as in the material world, there are ordained periods of relaxation and repose from labor, and he best subserves the divine purpose, and fulfills most perfectly the requirements of his nature who orders his life in just obedience to this law. Happily, the nature of Dental practice admits of adequate opportunities for agreeable and profitable relaxation from its more imperious duties, the sources of which are manifold. There are social interests to be cultivated. General literature; history, ancient, modern and contemporaneous have their claims. The current news of the day, as a reflex of the living present, are of personal concern to all. The study of political science, so far as it relates to the intelligent discharge of the duties of citizenship, is of binding obligation upon every man who values the blessings of free institutions. Standard works of fiction, the fine arts, music, poetry, the drama, if judiciously and rationally indulged in, may be made subservient to human happiness and usefulness, and will promote the individual in those accomplishments which adorn, and are passports to cultivated and polite society. But these objects should be held in strict subordination by him who has consecrated himself to the pursuit of science, general or special. In our own department, there are inexhaustible themes of study—themes of the highest import to us—anatomy, physiology, pathology, chemistry, Dental medicine and surgery, therapeutics, hygiene, mechanics and natural philosophy. What illimitable fields for exploration! How brief the time and opportunities for the fulfillment of duty and the achievement of the greatest good in all these broad domains of investigation and thought! You will have ample time for self-cultivation. Your first years of professional life will doubtless not be without discouragement from

"hope deferred." A full and lucrative practice is of slow growth, and it would be a personal misfortune to you, perhaps, were it otherwise, for such success at first would not only tend to enervate and demoralize by fostering a spirit of selfishness and cupidity, but would exhaust and absorb those energies of body and mind which should contribute as well to professional advancement as to pecuniary interests. If communities should prove tardy in bestowing their confidence and patronage at first, do not commit the folly of frittering away your time in worse than useless regrets, but accept your leisure hours gratefully as so many golden opportunities vouchsafed you for developing and maturing your powers, for higher and better efforts in the walks of your profession. With diligent attention to business, incorruptible integrity in all the varied relations of life, a faithful employment of all the means of self-improvement within your reach, and an inflexible purpose to excel in all the duties of your calling, your reward, not only in material profits, but in the confidence, esteem and gratitude of your fellow-men, will surely follow.

In taking leave of you, gentlemen, let us again express the earnest wish that in that future whose mysteries are, for beneficent purposes, veiled from mortal ken, you may severally realize the full and perfect fruition of all those hopes, desires and aspirations which an honorable and rational ambition begets in the breast of every man seeking for the highest good, and the applause and approbation of the wise and judicious among men.

## RESPONSE OF THE CLASS.

BY W. A. GRAHAME.

*Respected Professors and Honored Sirs:*—After four long months of study and application, the time has just now come for us to separate, and we must say our *adieux*; and, in behalf of my classmates, some of whom have been listening to your advice and counsel for two winters, I now appear to offer our thanks for the favors we have received at your hands. We know the ties that spring up between teachers and scholars to be strong, and unpleasant to be broken; but times for parting from tried and true friends come often “here below,” and it has now come to us. We feel that you are the teachers and we the scholars, and that strong ties bind us.

“Honor is the courtesy due to kings;” but we feel that we owe that courtesy to you, and a debt of gratitude that can never be paid. But when, at parting,

“The bitter thoughts come crowding thickly up  
For utterance, the poor, common words of courtesy  
Are such a very mockery,”

that we know not how to express our gratitude better than by simply saying, *with all our hearts we thank you.*

We are well aware that the field upon which we are just entering is both long and wide; that there is room enough yet for investigation, earnest as it may be, and that this is but just our beginning, for this is a world of mysteries that are yet unsolved—the earth, sea, air and everything in nature teem with mysterious things. Man himself is a mystery yet unknown, and he it is with whom we have to deal. He is a microcosm for study, and we fear he will never be *known* fully. Study him early and late, and he yet remains unstudied. Anatomy, physiology, chemistry, pathology, philosophy and the mechanical appliances, with their applica-



tions, constitute an array of studies that tells us that "A genius must needs go to school."

We know that time, and patience, and labor are all necessary that we attain to success in this matter. So, from this time and onward, we must be up and doing, and look to it that any great enemy to our advancement or progress be not within us.

We know, too, that this is only our first step on the "professional ladder," but we think we are starting with our "best foot foremost," and are glad that you who are above us are looking down, kindly taking us by the hands and saying, "Friends, come up higher."

But many things loom up before us, like a mirage on the plain, for which we are thankful. We are thankful that we are living in a day when Dentistry is acknowledged as a specialty in surgery; that American people are becoming educated as to what a *Dentist* ought to be, and it is now no more on a level with empiricism, but that it stands on a firm foundation, firmer than thrones of monarchs, or those who rule the world. Indeed, we think it is founded upon a rock, for rains have descended, winds have blown and beaten upon it, and it has not fallen; but it has only been made more firm, like the tree that takes deeper root as it is shaken by the winds, or more pure like the ocean that is purified by the storms that pass over it, and the tempests that stir it deeply. We are thankful that we have been told of the troubles, and trials, and vexations that await us, and how we should meet them, but still, to us, it is *unknown ground*, and will be, to a great extent, until we have trodden it with our own feet. When we walk by the sea, and endeavor to look out far upon the waters, we are filled with wonder. Now, it is not what we *see* that awes us—it is what we *don't* see. The question arises, "*What is beyond?*"

Thus it is in regard to this *unknown ground*. It will not always be those things we *see* that will bring us our difficulties, but sometimes and often it will be the things we *don't*



*see* ; but we hope, by following in the paths you have pointed out to us, that we shall be better enabled to surmount these difficulties whenever they are presented. We think we shall be able to use the things we have seen and heard, to add to our structure which we are building, and not rush so rashly as the horse into battle, or so thoughtlessly as though we were looking for "the track of a serpent on a rock, or the way of a ship in midst of the sea."

You have opened the doors of Dental knowledge that we might come in, and then the windows that the pure light might shine in upon us and our every duty ; and as we stand upon the threshold of the door of duty that now stands open for us to go out, it behooves us to value highly the advice and counsel of those who have grown old and wise in these things, and in going out from this place, we shall go with feelings of respect and reverence for you who have been our teachers and benefactors.

And after we have gone away from here, it will not be strange if our minds revert, time and again, to the times and scenes we have witnessed here. It is not a strange thing that a man should be patriotic and love his country, because it *helped* to make him what he is ; neither is it strange that a man looks back on his "sunny hours," and school-boy days, and thinks of his teachers, schoolmates and the "good old times" with pleasure, and these thoughts often bring the tear of regret that he cannot live his childhood o'er again. With much more pleasure shall we who have come to riper years look back upon these times and scenes. We shall be happy to feel that we are a part of that citadel of which you are the builders, and this institution the foundation stone.

Now, it is all these things for which we are thankful, and we cannot but be thankful to *you*, and to express our gratitude more fully, we must give you our best wish, and it is this : that your lives be long, your prosperity great, your influence as broad and high as heaven, and the perpetuity of

this, our cherished institution, as lasting as time, and as abundant as the waves of the sea.

And, when we shall shake hands at parting; while you are bidding us a *farewell*, we hope that, at that same time and this same place, and with the same hand, you will bid us a *true* welcome into the *Brotherhood of Dentists* that now exists from sea to sea, and from the lake chain to the gulf.

*Fellow Classmates and Students*:—What shall I say to you, and how shall I say it? I have said that the time for us to separate has come, and so it has. It does not seem very long since we came here, and were formally introduced as strangers to each other; but as we have met, day after day, in these halls, a friendship has grown up among us that I trust will not be marred nor broken by our parting. But we now go home to work, and there is a great one for us to do. We are to work for the cause of humanity; and God grant that you and I may never disgrace the work or the cause. We are going out now to fight the battle of life, to work, to act, to do; and in this we need as much courage as true soldiers, for we must "*dare to do right, dare to be true*," right between our fellowmen and ourselves, and true to those principles that are born within us, and have been so faithfully taught us. Then we ought to be sincere and true men, not *gilded*, but *gold*; not a splendid and burnished appearance outside, and a base metal within, but all the way through to the heart the same.

We are surely having advantages that those who have been before us did not possess. We can build on the foundation that other men have laid, and profit by their labors and experience. The Dental literature of *to-day* did not always exist. Dental colleges did not always exist. Many of our worthy predecessors in this work were like men who groped around in the starlight that precedes the dawn, and then—died before the sun rose. But it is "high noon" with you and me—yes, with all of us, and we ought to be aroused to the fact and *know it*. There are, everywhere, light-

houses which send a beam far out on every side, and we ought to see it, and not go groping around among the ashes and ruins of darker days, trying to find a few live, burning coals, that we may gather together and fan into a flame wherewith to light our lamps, when the world is full of light. But if all this be as clear as a sunbeam, what will it amount to unless we have *resolution* and a *purpose*? If we be men without these, we are no *men* at all; we are destitute of that manhood necessary in our calling. Therefore we say, *be resolute; have a purpose*. We read that Cæsar once having landed his army, burned his ships on the sea before their eyes to destroy the *hope* of a return. The Spartan mother said to her son going into the battle, "My son, if thy sword be too short, *add a step to it!*" They certainly had a purpose. Their motto was, "*Be true soldiers, and conquer or perish.*" We would rather see a man resolute and determined, and "stand firm as an anvil," even if he be wrong, than the one who is blown about hither and thither by every passing breeze, about whom we can have no more idea than we can in regard to the shape the clouds will assume *to-morrow*.

We think there is a new era about to be ushered in, and we think the new era for us is coming slowly, but is coming now, and is near at hand, and the duty partly falls upon you and me, now, to help it along. Let us

"Ring out the old, ring in the new;  
Ring out the false, ring in the true."

Let us say of the death of the old era and the birth of the new one, when that time comes, as we would of the death of the old and the birth of the new year:

"Close up his eyes, tie up his chin,  
Step from the corpse and let him in  
That standeth there alone and waiteth at the door.  
There is a new foot on the floor, my friends,  
A new face at the door, my friends,  
A new face at the door."

A few more words and I have done:

“ Perhaps, henceforward, our paths may diverge widely. Each one is going his own way. If we should meet again, whether in business transactions, Dental associations, socially or otherwise, we can only hope that we be more firmly united to cherish the friendship that is the result of this winter’s intercourse, and because we are engaged in the same common cause; but wherever we go, or wherever we stay, let us carry and keep with us the elements that will do *honor* to our institution and profession. And since we know we cannot live our lives over again, may we each one so live that we shall not *wish* to live again, or have to say :

“ My life has been a blighted hope,  
A blossom by the way-side thrown;  
The dreams that danced before my eyes  
In better days have flown.”

But let us so live that we can render up our accounts with joy and not with grief; and in order to be able to do this, as we are now called into action, we must act like we have hearts within us, and a God o’er head.

To one and all we say—“GOOD BYE.”

## Proceedings of Societies.

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### THE THIRD REGULAR SEMI-ANNUAL MEETING OF THE ILLINOIS STATE DENTAL SOCIETY.

The Third Regular Semi-Annual Meeting of the Illinois State Dental Society held its sessions in Chicago, commencing November 13, 1866.

The meeting was called to order by the President, Dr. H. N. Lewis, of Quincy.

The first business in order was the reading of an address by Dr. M. S. Dean, of Chicago.

The speaker, after a brief introduction to his remarks, spoke at some little length of the progress made by the profession during the last few years. No better proof of this progress could be had than a comparison between the mechanical work of the past with that of the present. The clumsily carved blocks of ivory, which, a few years ago, served the purpose of teeth, and though infinitely inferior to the work of the merest tyro in the profession of to-day, were, even in the present generation, considered to embody all the skill and art possessed by members of the profession. One of the main, though probably indirect, causes of this advancement, was the fact that a change of climate, and the replacement of the simple diet of by-gone days by the luxurious viands of recent times, has called the labors of the Dentist into more general requisition, causing him to embrace every opportunity for improvement. But, even appreciating the great progress which has been made, there is still a call for an increased display of energy and ability. Great good would be achieved by the erection of a higher standard of education. The profession required as extensive a course of study as medicine or surgery. It must improve all the aids



that science affords. The education of the student should be substantial in its nature, and threefold in its character, embracing the instruction of the mind, the hand, and the eye. That is, it should be scientific, mechanical and artistic. The whole system should be well known by the practitioner, inasmuch as a knowledge of the entire system is requisite for the successful treatment of any of its principal organs. A certain acquaintance with medicine should, therefore, be the ground-work of the profession. The hand of the Dentist should be trained in the mechanics of the profession, and in the handling of instruments dextrously. It must construct well and readily what the mind conceives. The eye, by education, must be rendered acute and delicate. In noticing the general and satisfactory progress of the profession, it was observable that, during the past four or five years, that advancement had not been as general as during the five years immediately preceding. This was probably owing to the fact that the introduction of vulcanized rubber as a base caused the work of inserting teeth to be conducted so cheaply that the onward progress of the profession was somewhat checked. It was satisfactory to witness that to this general rule there were honorable exceptions, and that many members have ever continued to devote their best talents to the advancement of this important branch of surgery.

In conclusion, Dr. Dean spoke of the benefits arising from such associations as the Illinois State Dental Society. They were useful because they afforded opportunities for the interchange of ideas. Those who fail to avail themselves of the advantages of such comparative knowledge, will find that in a short time they will be outstripped by others who commenced with a smaller scientific foundation, but who have acquired knowledge from the experiences of older members of the profession. To bring about this good, the Illinois Society was established, and in considering the benefits which will accrue from a free and full interchange of expe-

rience and ideas, its members should relate their respective practices, their successes, and, if they have any, their failures. While the Dentist should study to become eminently useful in his profession, he must not neglect the collateral sciences. There is a great danger that in the every-day routine the cramped mind will become confined to its narrow limits, and lose the rich and mellow fruit of science and literature.

Dr. J. Ward Ellis moved that during the absence of the Secretary, Dr. L. P. Haskell be appointed Secretary *pro tem*.

The following gentlemen were balloted for and declared to be duly elected:

Dr. I. D. Kilbourne, of Chicago; Dr. V. R. David, of Sandwich; Dr. S. Abbott, of Wilmington; Dr. S. M. Swain, of Aurora; Dr. T. F. Woodbridge, of Mendota; Dr. George Salter, of Joliet.

#### CONSTITUTIONAL AMENDMENT.

Dr. J. Ward Ellis moved to so amend the by-laws of the Society as to do away with the November meetings and constitute the annual meeting, holden on the second Tuesday of May, the only regular meeting of the year.

Under the provisions of the Constitution, the motion was laid over until the next regular meeting.

#### AFTERNOON SESSION.

The Society met in the afternoon, pursuant to adjournment, the President in the Chair.

#### PROFESSIONAL ELEVATION.

As a commencement of the regular discussion of the meeting, Dr. J. Ward Ellis spoke at some length on the necessity of elevating the Dental profession. That profession was but a new one, but it had acquired the position of a distinct branch, and was regarded by the public as one of

importance. This confidence reposed in it by the people must not be abused by the profession. Dentists needed to cultivate a higher order of education. A man must not expect to leave the mechanic's bench, and commence the practice of Dentistry with no further aid than that afforded by a manual on the subject. He must know that the highest qualifications are necessary, and then when he feels competent in his profession, he must set his mark high. Every man should aim to excel in operation rather than attempt to compete with others in the matter of low prices. This subject of competition might have been entertained twenty years ago, but it cannot now, and the man who does his work best will be the man who succeeds. Even now the popular mind has not become sufficiently schooled to fully recognize the merits of Dentistry; but, in a measure, this is perhaps one of the faults of the practitioner, and would be obviated in a great measure if all would attempt to elevate the profession rather than to build up individual practices at the expense of the reputation of some brother practitioner. In conclusion, the speaker dwelt upon the necessity of honesty of sentiment. What a man does not know, he should acknowledge boldly, rather than attempt to make some reply which can never be satisfactory, and which will frequently only prove injurious to the practitioner.

#### DISEASES OF THE TEETH.

Dr. Cushing, of Chicago, next read an essay upon the causes and prevention of diseases of the teeth. He defined the diseases to be of two characters—predisposing and approximate. To fully discuss the first class of diseases, the investigator must go back to the period of gestation. Without taking into consideration the theory of hereditary transmission, it was a fact well established that the health of the mother during the period of pregnancy has a great effect upon the health of the child.

The want of proper nourishment on the part of the parent at this time, is much felt by the unborn child, and in no organs more perceptibly than in the Dental ones. Predisposing causes may also occur after dentition has been completed. Every depraved condition of the system will exercise its influence more or less upon the teeth. The approximate causes of disease may be considered solely attributable to the action of acids. These, by the exercise of a chemical process upon the teeth, destroy their structure.

In speaking of the means of prevention, the speaker said that the prevention of the predisposing forms of disease rests, in a great measure, with the mother of the unborn infant. Mothers cannot place too much value upon the necessity, during pregnancy, of having a proper diet—especially food rich in the bone-making material—and in taking suitable exercise.

The reason why the teeth of people of later days are more decayed than were those of past generations, is, that we are now farther from Nature's simple plan. Indeed, the terrible condition of the present generation may be said to be one of the penalties of civilization; and the decayed condition will increase in exact ratio with the luxuriousness of the diet. Dentists should discourage the general use of pickles, lemons and other acid substances, and bring their patients as near as possible under the influence of the hygienic law. Another great cause of disease by the production of acids, is the fermentation of food lodging in the teeth after eating. The remedy for and preventive of this is cleanliness, absolute cleanliness. The Doctor recommended the use of antacids with the brush. Solution of carbonate of soda, lime water, &c., could be advantageously used three times a day, for an indefinite period.

After some discussion upon Dr. Cushing's essay, the Society adjourned until morning.

## SECOND DAY'S SESSION.

The Society met according to adjournment.

The minutes of the last regular meeting were read by Dr. L. P. Haskell, Secretary *pro tem.*, and on motion, were approved.

## ELECTION OF MEMBERS.

The following gentlemen were balloted for and duly elected members of the Society:

Dr. Thomas E. Fahnestock, of Aurora, and Dr. A. C. Allen, of Joliet.

## DECIDUOUS TEETH.

Under the topic of deciduous teeth, Dr. Kennicott spoke at some length on his experience in capping the nerves. He believed it to be a most successful manner of proceeding, and commended it as a humane and gentle mode of treatment. He condemned heroic treatment as unworthy of the humane character of the profession.

## CAPPING.

Dr. Ellis believed in heroic treatment, when by heroic was meant active treatment. For ten years he had abandoned capping nerves, except in a few cases. His experience in capping nerves had been unsuccessful, and he had come to the conclusion that he could not preserve deciduous teeth by capping in five cases out of fifty. When he practiced the method of capping, he took a small cup of platina or gold, and, after indenting it, put into it the gutta percha, and then pressed it down upon the nerve in order to get an impression. Generally he failed, but even when he did not, could not but feel that he had placed upon one of the tenderest little bundles of nerve a vegetable foreign substance which would cause inflammation and suppuration to ensue. At



present, in the treatment of deciduous teeth, he steeped a pledget of cotton in creosote, and then forced it down in the cavity previous to filling.

Dr. M. W. Sherwood had met with the greatest success in the treatment of deciduous teeth by filling with amalgam. He found it expeditious and successful. In cases of the exposed nerves of children, he removed the soft portion of the dentine, and laid over the nerve a piece of bibulous paper saturated with creosote; then he filled with amalgam. The speaker had long since abandoned the practice of treating pulps by capping.

Dr. Kennicott said that in his method of capping, he always liquified the gutta percha by heating it over a spirit lamp, before he attempted to take an impression. He had tried the oxychloride of zinc, as recommended by Eastern practitioners, but did not like it as well as the liquid gutta percha.

The discussion was further participated in by Drs. Noble, Reber and others, after which the meeting adjourned until afternoon.

#### AFTERNOON SESSION.

At 3 o'clock the Society met, pursuant to adjournment, the President in the chair.

The discussion of the mode of treatment of deciduous teeth having closed, the President stated that the next topic for consideration was the

#### TREATMENT OF SIX-YEAR-OLD MOLAR TEETH.

Dr. M. W. Sherwood, the first speaker upon the subject, dwelt upon its great importance, and the necessity of impressing the minds of parents with the idea that they must teach their children to secure the perfect cleanliness of their teeth. He did not favor the practice of extirpating the nerves.

Dr. J. Ward Ellis believed in the great importance of the subject under discussion, and considered that it merited the close attention of the Dental profession. Men were too apt to lose sight of the importance of the treatment of six-year molars, or else to attach themselves firmly to the working out of some peculiar theory. He did not think that the proper method of treatment could be stated as a method to be followed in all cases without deviation. For example, he would not say that he would always extract or always preserve the teeth, but would be governed in his action by the circumstances of the case.

Dr. Honsinger believed that a question upon which so many were ignorant should receive the closest attention of the profession. It was the common belief with parents, that the six-year molars would be replaced by others; that they were only the first growth of teeth. Consequently, they paid but little attention to them. This idea was certainly wrong; for the fact was, that it was necessary to most carefully treat the six-year molar teeth. It was hardly practicable to define a mode of treatment which would be most successful in all cases, but the circumstances in each instance should be closely considered.

After remarks by several other gentlemen present, the discussion of the question was closed.

#### THE HARD RUBBER QUESTION.

The Chair announced that Col. Fisher, the attorney whose services had been retained by the Dentists in the Goodyear Vulcanized Rubber Question, was present, and could probably give the Society some information in the premises.

Col. Fisher then addressed the meeting. From his report it appears that he had been secured to fully investigate the hard rubber patent, and ascertain the advisability of further contesting its validity. He found that some time ago the Goodyear Dental Vulcanized Rubber Patent Company commenced an action at law against a certain Dentist for an

alleged infringement of their so-called patent right. In the lower Court in which the suit was instituted, the case was decided in favor of the complainants, and the question now was, whether it would be advisable to carry the case by appeal up to the Supreme Court of the United States. The investigation of the speaker had proved that the so-called invention had been first made by a Parisian Dentist many years before a patent for it was taken out in the United States by another person, who supposed himself to be the original discoverer. The Parisian Dentist had been adverse to patenting, or even publishing, the invention.

After the subject had been discussed at some length by many gentlemen present, Dr. Allport moved that the action of the Ohio Dentists, in relation to this contest, be adopted by the Illinois State Dental Society.

The motion prevailed.

#### THIRD DAY'S SESSION.

The Chair announced that the subject of the treatment of six-year molars was still before the meeting.

Dr. Ellis moved to close the discussion on that subject, and pass to the consideration of the next in order.

The motion prevailed.

The Society then proceeded to consider the question of

#### FILLING TEETH.

Dr. Wilson believed that saving the natural teeth was the true sphere of the Dentist. It is the first thing the student thinks he knows, but really the last thing that he certainly knows. It is a branch of the science that is not thoroughly appreciated by the public, who even yet have not learned that natural teeth, even if a little irregular, are preferable to porcelain; and that many difficulties commence with the false teeth.

The great desideratum to be sought is to perfect a filling  
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which shall be perfectly air and water tight. He believed that almost generally there was more in the manner than in the matter of working. Regarding the material, the Doctor believed most undoubtedly in the pre-eminent virtue of gold. There may be isolated cases where, in certain hands, other materials are preferable; but in the vast majority of instances the gold is by far the best.

In the work of filling, too much attention cannot be paid to the preparation of the cavity. It must be perfectly clear, and all extraneous substances must be removed.

In the use of amalgam, the operator cannot be too careful in the preparation of the material. All the mercury that is not absolutely necessary should be squeezed out and removed. He would not finish an amalgam filling at one sitting. In respect to the manner of spreading teeth, the speaker has always used the hickory wedge, and had found it to be successful. In conclusion, Dr. Wilson summed up the work of filling in the following sentence: "First make every part of the cavity so as to be seen by the operator, then clean thoroughly, fill surely, and finish beautifully."

#### THE MATERIAL FOR FILLING TEETH.

Dr. J. Ward Ellis used the alder wood as a wedge, and drove it home thoroughly near the gums. He avoided filing as much as possible. The speaker believed in the advantage of seeing the whole of the cavity, but in certain cases this could not be done; and he had met instances when he could not see the cavity at all, and had to fill by the aid of a dam to stay the saliva. In the matter of the material for filing, the speaker agreed with Dr. O. Wilson that gold was the best, but considered there was some room for discussion in the matter of the kind of gold to be used. He was in favor of non-adhesive gold, believing it to be superior to other kinds. In certain cases, as in finishing, he used the adhesive foil, but believed that ten to twenty per cent. more successful

operations of filling were accomplished with non-adhesive foil, than by the use of the adhesive, or sponge foil. With their use there was more difficulty in packing to the wall of the cavity, and the anchoring points were more likely to fail. In relation to the non-adhesive foil, the speaker considered it was easier to make a successful filling with it, and less skill and science were required at the hands of the operator. In building out the form of the tooth, the speaker admitted that he frequently used the adhesive foil; and in conclusion, he spoke of two operations recently performed by him, in which he built up the walls of some molar and bicuspid teeth, some of whose walls were still remaining, by the use of the adhesive gold.

#### CRYSTAL GOLD.

Dr. Honsinger had been in practice as a Dentist for about nineteen years. During about half that time, he had used the non-adhesive foil; but his greatest successes have been attained by the use of crystal gold. This fact may be due somewhat to his increased experience, but in the main he believed it was due to the superiority of the material. His opinion was that more gold in the crystalline form can be introduced into the cavity than by the use of foil. The crystallized gold can be packed more firmly than the foil, and the best filling is certainly that one which excludes most perfectly the air and water. In relation to the matter of filling, the speaker had, in his earlier days, lost many teeth by a fear to use the file. Many failures in approximate and crown fillings have occurred, for the reason that the cavity is too small to allow a perfect success. The speaker always endeavored to get a full look into the cavity to be filled, in order to know well how to proceed in the operation. Though not an advocate of indiscriminate filing, he used the file extensively. Formerly he used a flat file, but he has since found that the most effective instrument is of the V shape.



Such a file is especially successful in working on bicuspid teeth.

In relation to the filling of teeth with crystal gold, Dr. Honsinger said that he did not know that he failed five times a year. He protested against the spreading of teeth by forcible wedging. Sometimes it may be well to exercise a moderate strain, but the practice of forcible, sudden wedging was not advisable, in the speaker's opinion. In spreading teeth, he always used virgin rubber. This rubber he cuts into small strips of various thicknesses, and inserts between the teeth to be spread. By commencing with the thinnest strip, and continuing to replace by thicker ones, he always succeeded, in a week or eight days, in spreading the teeth sufficiently to commence filling. In the matter of front teeth, the speaker seldom used a file, except the tooth was so decayed as to render the edges ragged and irregular.

#### FILING TEETH.

Dr. Kilbourne, of Aurora, believed that the use of the file was necessary, and that it had saved many more teeth than it had destroyed. In the matter of wedging, the speaker had used cotton, with great success. It was less painful to the patient, and succeeded in spreading the tooth as effectually, and in about the same time, that strips of rubber would. He considered that the two great causes of failure in the filling of teeth with gold are, first, the want of cleanliness in the cavity at the bottom; and, secondly, the want of a thorough packing of the gold at the base and sides of the tooth.

#### SPREADING TEETH.

A gentleman present related his experiences in spreading teeth by means of a ligature of cotton twine tied around the tooth. He considered the method a good and effective one.

## NECESSARY PAIN.

Dr. Allport acknowledged that the use of the wedge was frequently painful, but believed it was the duty of the Dentist not to allow this fact to deter him, if he believed the operation would result in the future good of the patient. Better cause a little instant pain, to produce comfort hereafter. If pain is absolutely necessary to perfect an operation, the practitioner ought not to mind inflicting it. He believed in wedging thoroughly, and considered that the act was really a preventive of pain, inasmuch as the pressure at the apex of the root in a measure paralyzes the nerve, causing much less pain during the subsequent work of excavating. If the tooth is loose, the wedge steadies it, and, by preventing it from swaying about, saves much inconvenience and pain.

Dr. Kennicott, in spreading teeth, used a pledget of cotton saturated with some sedative. It accomplished all that the rubber strips or wooden wedge did, and without pain. If he used a file, he was careful to apply an anæsthetic. If he used a file, he believed it should be used "heroically" and thoroughly, but he deprecated its use at all as unnecessary and painful. When compelled to use a wedge, he chose the softest pine wood, and then selecting one about one-third larger than the cavity into which it was to be introduced, he pushed it in between the teeth with a pair of pliers. In conclusion, the speaker earnestly spoke against operations which inflicted pain upon the patient. He considered that no Dentist who "had been through the mill" and suffered the pain of some heroic operation himself, would inflict pain upon a patient, if he possibly could avoid it.

Dr. Allport contended that operations could not be performed without pain, and that it was useless to consider such a thing practicable. He deprecated the education of the popular mind with the belief that Dental operations could be performed without personal discomfort and pain.

Dr. Ellis believed that the wedge did not produce more pain than other appliances, and considered its use necessary.

The meeting then adjourned until 3 o'clock in the afternoon.

#### AFTERNOON SESSION.

In the afternoon the Society met, pursuant to adjournment, the President in the chair.

The Chair announced as the subject for discussion,

#### THE TREATMENT OF EXPOSED NERVES.

Dr. Kilbourne, of Aurora, mentioned several cases which came under his own attention. He applied arsenic, and then at the request of the parties proceeded to fill the teeth immediately. The teeth were principally bicuspid and molars. He left the arsenic in the tooth and filled over it. He was not an advocate of that mode of practice, but in that instance tried the experiment, and found it successful. His general practice was, when he found an exposed nerve, to first extirpate it, and then, as soon after as practicable, commence to fill the cavity.

#### DESTRUCTION OF THE NERVE.

Dr. Honsinger believed the question had been thoroughly investigated at former meetings. In the treatment of pulps, he had long abandoned the practice of capping. Generally, when he found a pulp wounded so as to produce blood, he destroyed it. In destroying the nerve, he used the arsenical paste. In the case mentioned by Dr. Kilbourne, no serious results appear to have ensued by leaving the arsenic in permanently, but the speaker always desired to remove the paste as soon after the nerve is destroyed as possible. He then removes the pulp, and shortly afterward commences filling; but fears to commence filling immediately after destroying the nerve, inasmuch as ulceration might ensue. He would

not fill the tooth until all soreness and inflammation had been removed. In some cases he could not subdue the inflammation and then would not fill until the tooth was sufficiently healthy to permit the patient to bite. The Doctor had found the application of cotton steeped in creosote before filling, advantageous and successful.

Dr. M. S. Dean thought the treatment of exposed nerves the most important subject that had been presented for discussion. His experience in capping had been that of almost every other Dentist—unsatisfactory, and had long since abandoned it. His usual practice now was to destroy with creosote and arsenic, although in some cases where in excavating he had found the nerve slightly exposed, and the patient young and vigorous, he had applied creosote or perchloride of iron and immediately filled the cavity. Although this practice had sometimes been successful, it was so uncertain that he seldom adopted it.

He considered the saving of the pulp of so much importance that he hoped the scientific minds of the profession would be concentrated upon that *vital* point until the saving of them alive should become as common as their destruction was now general.

He had seen a few teeth upon which the operation of excising a portion of the pulp had been performed by Dr. Allport. I had no doubt but that the nerve was covered with ossific matter, but recovered its healthy condition. He had examined these cases from three to nine months after the operation had been performed, and from what he had seen was fully satisfied in his own mind that these operations could be and had been successfully performed. He had never attempted the operation himself, but should when a favorable opportunity presented itself, as in case of failure he should only accomplish accidentally what he had otherwise done intentionally.

Dr. Kennicott, as a rule, found no rule in treating simple cases of exposed nerve. He believed in giving the nerve a

fair trial before scalping it, gouging it out, or destroying it with arsenious acid. He believed the bounden duty of every operator was first to attempt to preserve the vitality of the pulp. After applying some sedative to the nerve, the speaker believed in capping it. They must allay irritation, inflammation, or all that could produce it; then, after cleaning the cavity, the cap should be prepared. Its lining should be of some non-conducting substance, to exclude air or moisture. If subsequent inflammation ensued, the nerve need not be destroyed. The operator should then drill through the filling, when after perforating the cap, he can excavate a small portion of its lining, and in a large majority of cases effect a remedy. To attain success, there should be no vacuum beneath the cap. The space should be wholly filled, and until it is filled by some proper substance, the work can not be complete. The caps he conveniently cut out of gold, and these caps may be kept on hand, though the lining should not be placed in until the moment when it is required to be used.

Dr. Kilbourne, of Aurora, opposed the practice of capping. He did not believe it was practicable, and had abandoned it long ago.

Dr. Sherwood, of Chicago, said: A gentleman came to me with the nerve exposed in a lower wisdom tooth. On examination, I thought it so favorable a case to try Dr. Allport's treatment, and the patient had had such a bad experience with devitalized teeth, that I advised him to go to Dr. Allport and let him treat it. He did so, and the tooth was filled with Hill's stopping. It gave no pain; subsequently, was used three or four weeks, when some Dentist having expressed the opinion that it was dead, Dr. Allport removed the filling. He found the nerve living and healthy, and the orifice filled with a white lymph, and all right. In refilling, the nerve was a little pressed, and some grumbling was felt for some days, but it is now well and promises to be lasting.

The next case was a young lady for whom Dr. Allport



had treated and filled the first right superior molar, eight months previously. She had experienced no pain whatever since the operation; but being about to visit Europe, the Doctor removed the filling to see how the pulp was getting on, and called M. S. Dean and myself to see the case in that condition. There was a formation of bony substance filling the orifice of exposure, much resembling the new bone we sometimes see in pulp cavities of deeply-worn teeth, in persons of advanced life. I examined the substance with a watchmaker's glass, and felt it with an instrument.

The next case was in the mouth of the same person first alluded to—a large cavity on the side of the opposite wisdom tooth on the same jaw. The tooth had been filled with amalgam for ten or twelve years; occasionally falling out, it had been replaced. I had replaced it myself once or twice, and at this time was deepening the retaining channel when my instrument uncovered the nerve without giving the slightest warning, or even wounding the nerve. I folded a piece of bibulous paper, and placing it carefully over the nerve, filled with Lawrence's amalgam, rather soft. Four or five days after, the patient returned, with tooth aching badly. I went with him to Dr. Allport's office, and assisted in the operation. On removing the filling, two or three drops of blood gushed from the pulp, and the pain ceased. Dr. Allport gave him chloroform, and excised the nerve pulp freely. It seemed to me as though he cut out half the pulp. That tooth has only been filled with cotton saturated with arnica. At times it is a little uneasy. It is now two months or more since the operation, and our curiosity is excited to see how long the nerve will live in this condition.

These are simple facts, and as such are worth more than all theories and objections to the contrary.

In surgery, we have operations amputating, excising and wounding the nerves, and even removing portions of the brain itself. Reasoning from analogy, why may we not excise the pulps of teeth? Only by experiment and careful

observation can we decide the matter. The operation is not difficult to perform. I have operated upon two cases, which are going on satisfactorily.

Dr. Allport, in regard to what Dr. Kennicott had said in regard to drilling through a filling to heal an inflamed pulp, considered it contrary to correct theory and good sense. What is the cause of inflammation, when the pulp is not wounded? Pressure, or the presence of some uncongenial foreign substance. The act of drilling through the filling cannot be performed without pressure, which, when it reaches the pulp, will force more or less of the gutta percha or spicula of bone into the pulp, which will of necessity produce irritation, keep up inflammation, and death will ensue; and furthermore, he deemed it utterly impracticable to drill through the centre of a filling with any certainty of not wounding the pulp.

In relation to the excising of exposed pulps, he would say a few words. He would protest against the use of slang phrases in these discussions, such as "scalping," "gouging," &c., as unprofessional and unbecoming a body of men who had met to discuss practical and scientific questions; and we owe it to ourselves and the profession to make use of such language as that we shall not be ashamed to have others read.

In his treatment of exposed pulps, he had not always been successful by excising a portion of it, neither did he attempt it in all cases. He trusted, however, that others might improve upon his method, and be even more successful than he had been. He had some cases of two or three years' standing, where the pulp was in a fine, healthy condition, but there was no deposit of dentine; but in most cases he had treated by this method there was a deposit of dentine.

His mode of treatment was as follows: He takes an instrument made for the purpose, and excises a portion of the pulp, leaving it in a "V" shape; then dissects it from the walls of the cavity, and induces the mouth of the wound to

close by gentle pressure, or the natural resilience of the parts; saturates bibulous paper with calendula or other sedative, and lays over the pulp, and covers with cotton, and after a few days, if the pulp seems healed and in a healthy condition, covers again with three or four thicknesses of bibulous paper, and fills with "Hill's stopping," until it is ready for the permanent filling.

Dr. Kennicott took exception to the remarks of Dr. Allport, who had stated that he (Dr. K.) claimed to be able to drill through the filling and pulp in order to allay secondary inflammation.

Dr. Allport wished to interrupt the gentleman. I said that in drilling through the filling to the pulp the point of the instrument would wound it, and force the gutta percha and spicula of bone into the pulp.

Dr. Kennicott. I *never* wound the pulp in drilling, and the man must be a very bungling operator who would do so.

Dr. Allport. I fear, then, that most operators would be bunglers, for we are warned of our approach to the pulp by its giving pain, as it does not hurt till it is pierced, and then the job is done.

Dr. Kennicott said he performed the experiment every day in his professional life, and did not consider it senseless or dangerous to the life of the pulp, and a man of Dr. Allport's skill could do the same thing.

Dr. Allport. No I can't.

Adjourned.

#### FOURTH DAY'S SESSION.

The minutes of the previous meeting were read by the Secretary *pro tem.*, amended and approved.

The Chair announced that the subject of the treatment of

#### EXPOSED NERVES

was still under consideration.

Dr. Allport, without desiring to discuss the question at any further length, and in moving that the subject be passed, suggested that the term "exposed nerves" be not used. He considered the words "exposed pulp" were more suitable and expressive.

The subject was then passed, and the Society proceeded to the discussion of

#### MECHANICAL DENTISTRY.

Dr. M. S. Dean suggested that under this head the Society should limit its consideration to the subject of artificial dentures, and not include the discussion of the irregularities of teeth.

The Chair announced that the question of irregularities of teeth formed the next subject for discussion, and therefore would not be considered at present.

#### ALLEN'S CONTINUOUS GUM.

Dr. Dean said there was one way of inserting artificial teeth, and, in his opinion, but one way; that was, by the use of Allen's Continuous Gum. The subject, then, was entirely under the control of the Dentist, and afforded him full scope for the display of all the artistic skill he possessed. If he was an artistic operator, he would, by the use of this gum, succeed to the satisfaction of himself and patient. Vulcanized rubber is certainly useful, and perhaps practically is equal to any other substance, but the difficulty and objection is that sets cannot be inserted on rubber to look as natural and life-like as with the continuous gum. Some practitioners, certainly, by the exercise of great skill, succeed in the production of work on rubber of a very beautiful character; but, as a rule, the substance is by no means as satisfactory or successful as the first-named material.

#### RUBBER AS A BASE.

Dr. Haskell did not exactly agree with Dr. Dean, that

Allen's Continuous Gum is the "only thing" though he conceded that it was certainly the most satisfactory. He acknowledged that, while in many cases the hard rubber base proves very effective, as a general rule the arbitrary character of the teeth cannot be avoided. In regard to the continuous gum, the teeth can always be placed just where they are wanted, and the gum can be arranged to suit the taste and will of the practitioner.

In the case of partial lower sets, the speaker believed in the excellence of rubber as a base. In some instances he always used a gold band in union with the rubber, and found it gave the best adaptation. In partial upper sets he used gold.

#### CLASPS NOT DESIRABLE.

In reply to a question by Dr. Ellis, Dr. Haskell said that he avoided the use of clasps whenever possible. In some cases, from the articulation of the lower teeth, a clasp is necessary, but as a general thing the use should be avoided. In partial sets, the speaker found the atmospheric pressure to be quite sufficient. Such a pressure generally would last as long as the plate lasts. In some cases the sets used to sustain the teeth without any pressure at all; and of course in such instances no pressure need be applied.

#### PARTIAL SETS.

Dr. Noble coincided in the belief that gold plate was the best base for partial upper sets, but considered rubber to be preferable in partial sets in the lower jaw. In such cases he would, however, frequently unite the gold with the rubber, and use a gold band, as spoken of by Dr. Haskell.

#### WHERE RUBBER MAY BE USED.

Dr. J. Ward Ellis considered that, as a rule, the construction of partial sets on the rubber base, should be discounte-



nanced by the profession. If a patient retained the four molars in the upper jaw, the speaker would not object to set the balance on the rubber base; but if a canine, an incisor, and two bicuspid were absent, he would not use such a base for any consideration. If the operator could set six or eight teeth all together, the rubber might be used, but when one tooth had to be inserted here and another there, with sound teeth intervening, the rubber base was not strong enough. In such cases, the speaker believed in the superiority of gold.

#### ENGLISH RUBBER.

In reply to a question by Dr. Haskell, Dr. Ellis said that he had set about three or four complete sets of teeth on the English rubber, during the past two years. So far the results had proved satisfactory, and he had not discovered anything against the base.

#### AN ELECTION.

Dr. Allport thought that the Society had been certainly remiss in allowing a well known Ohio practitioner to be with them for two days unnoticed. He moved that the rules be suspended in order to elect Dr. Keely, of Ohio, an honorary member of the Illinois State Dental Society.

The motion prevailed, and Dr. Keely was declared to be unanimously elected.

The discussion of the subject of mechanical dentistry was then resumed.

Dr. Keely considered that all Dentists were deeply interested in this question of artificial or mechanical work. He believed that Allen's continuous gum work was the best possible substitute they could employ. It possesses beauty, strength, durability and every virtue. The speaker believed that the whole country was under obligations to its inventor, and was proud to acknowledge that gentleman as his preceptor. In regard to the construction of partial sets of

teeth, Dr. Keely believed that gold was decidedly the best base, though in many cases strength and a better fit can be obtained with rubber than any other substance. In the matter of full sets, too, many Dentists are too careless in obtaining the natural articulation; that is, in getting the teeth to lock in as they ought to. He considered that the Dentist who was not careful in this particular failed to perform his duty.

#### RUBBER NOT SUCCESSFUL.

Dr. Kilbourne, of Aurora, said that his experience in the use of rubber in partial sets had not been flattering in any instance. In one, two or three years, a crack occurred near the first molar, and from that time the plate might be considered to be destroyed. He had had much trouble with these partial under-plates. At present, he takes all his impressions with Plaster of Paris, and gets up the dies in the same manner that he would for metal plates. He then fits a gold plate to the inside of the under front teeth, and attaches the rubber to that as a base for three or four more artificial teeth.

The speaker stated that he makes but very few rubber partial under-plates any way, and as for partial upper-plates he rarely, if ever, makes them on rubber. An exception to this rule is only made when there are four remaining molars left, two of each teeth on each side. In such instances, he uses rubber with the collar of gold plate round the first molar. The Doctor, in conclusion, expressed his belief that in general, gold is the best base for artificial dentures.

#### PRACTICAL REMARKS.

Dr. Allport, for the past ten years, had done little in the mechanical part of Dentistry. Of course, like every other practitioner who had the responsibility of an office, it had fallen to his lot to advise and direct in the premises, but he

had of late done but little of the actual mechanical work. In relation to partial lower cases, he thought that all that was necessary to get a good impression of the mouth is to use plaster. It does not give any more trouble, if as much, with the lower partial cases, than with any others, if only done accurately. The difficulty is, that subsequently the gum may settle, or the teeth become too short, by the absorption of the *alveolus*. In such instances, all that can be done is to make a new case, for when the gum is absorbed the teeth are not useful, by reason of their inability to touch antagonizing teeth. In full sets, no work can compete with Allen's Continuous Gum. The only objections made to such sets is their weight, but this will speedily be unnoticed; and secondly, to break if allowed to fall. This difficulty will be obviated by the exercise of care in washing them. Out of every ten cases broken, nine are broken by being thrown down or roughly handled while being washed. Some cases, manufactured by the speaker of this material ten or twelve years ago, have been worn ever since. He believes them to be less troublesome than those of rubber or gold. The teeth rarely break in biting.

In conclusion, Dr. Allport dwelt upon the necessity by the operator in this work of the exercise of taste in color and arrangement, otherwise the rubber or gold base will prove to be as advantageous.

A great consideration in the selection and arrangement of artificial teeth is to make them look natural. Artificial teeth should not be handsome or peculiarly homely, but should be made to harmonize with the entire face, in width, color, size, position, etc. They should be selected with care, and arranged harmoniously, so as not to call the attention of a spectator to their existence upon the first glance at the face of the wearer.

There being no further discussion of this subject, Dr. J. Ward Ellis moved that it be declared passed.

The motion prevailed.

## SUSPENSION OF THE RULES.

Dr. Kennicott moved a suspension of the rules in order to appoint a committee to prepare a code of ethics.

The motion prevailed.

## DENTAL ETHICS.

Under the suspension of the rules, Dr. Kennicott moved the appointment, by the chair, of a committee of three, to prepare a code of ethics for the Illinois State Dental Society, and report as soon as practicable.

The motion prevailed, and the chair appointed as such committee, Dr. Kennicott, of Chicago; Dr. Allport, of Chicago, and Dr. Kilbourne, of Aurora.

## ADJOURNMENT.

Dr. Cushing moved that when the Society adjourns, it adjourn to meet on the second Tuesday of May next.

The motion prevailed.

The Society then proceeded to the consideration of the next subject in order, to-wit:

## THE IRREGULARITIES OF TEETH.

Dr. Keely, of Ohio, considered that the subject of irregularities of teeth was one which was too much neglected by the profession. Nineteen out of every twenty practitioners, when they saw an irregular and distorted tooth, did not attempt to place it in a right position, and considered that such an attempt would be impracticable. The speaker knew that such an opinion was fallacious, and that the operation could be successfully performed. Of course, the younger the patient was, the easier it would be to operate successfully; yet the speaker would not hesitate to move a tooth for a person thirty or forty years of age. The great virtue needed to obtain success was perseverance. If the operator

would only exercise this virtue, the results would be most satisfactory. Dr. Keely, in conclusion, mentioned several difficult cases of this nature which had occurred in his own practice, in which, by the use of the wedge and inclined plane, he had gradually succeeded in bringing each refractory tooth to a proper position.

The Committee on Dental Ethics reported a Code, which was unanimously adopted.

Dr. Allport moved the appointment by the Chair of a committee of three, to confer with a similar committee of the Chicago Dental Society, with a view to merging the two into one, to be called the Illinois State Dental Society. The motion prevailed, and the committee consists of Drs. Allport, Noble and M. S. Dean.

On motion of Dr. Cushing, a committee of three was appointed to arrange subjects for discussion at the next meeting; and to adopt such means as are advisable to secure a full attendance at the next meeting. The committee consists of Drs. Kennicott and Noble, of Chicago, and Kilbourne, of Aurora.

On motion, it was voted to hold the next meeting at Chicago.

Adjourned *sine die*.



## Editorial.

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### EXAMINATIONS FOR THE DEGREE OF D. D. S., IN THE OHIO COLLEGE OF DENTAL SURGERY.

It is probable that a few still labor under the impression that collegiate examinations are merely formal, and that the conferment of the degree is a matter of course. This is to be inferred from the fact that, every session, the faculty is besieged by those who wish to graduate, without having the prescribed requisitions, they taking it for granted that, as a matter of course, they can pass a satisfactory examination, even though it may be well known to the faculty that they would ignominiously fail, if submitted to the test. Two classes so press their claims on the faculty—those of a few months' study, and those who, though long claiming to be dentists, have not studied at all. The former are generally cured by one course of lectures; the latter would not be cured though "brayed in a mortar."

The proprietors and patrons of the Ohio College may desire to know something more than they do of the mode and extent of the examinations. This thought has led to the writing of this article.

Each candidate was subjected to a verbal examination by the whole faculty, on the subject of his thesis. Afterward, each professor submitted a series of questions or propositions, to be answered in writing, the answers to be written in the lecture room, in his presence, without reference to text books, or consultation with classmates. And to be successful, correct answers to two-thirds of the questions from each professor were required. This is more rigid than the requirement of last year, two-thirds of the aggregate being then demanded. It is not probable that a more rigid rule will be recommended by the friends of the institution; and that the questions are not trivial and formal will be recognized when they are read. Hence, they are subjoined, with the statement that no examination was made on chemistry, as the course was taught by different teachers, the professor of that department being absent by illness.

## • ANATOMY.

1. Give the muscles of shoulder joint.
2. Describe the superior maxillary bone—situation, articulations, surfaces, processes, etc.
3. Where is sphenoidal fissure? what does it give passage to?
4. Give the alimentary canal—its divisions, etc.
5. What nerves supply the special sense of taste? what nerve the tongue with motion?
6. What nerves supply the eye with sight and motion?
7. What are the coverings of oblique internal hernia?
8. Give the situation, lobes, fissures and ligaments of the liver, together with its offices, and where it receives its blood from?
9. Give the muscles of mastication.
10. Give the fœtal circulation.
11. Give the bones of the head and face.
12. Give the openings into the pharynx.

## HISTOLOGY, PHYSIOLOGY AND PATHOLOGY.

1. Describe a cell and its contents.
2. What is the cellular arrangement in the various kinds of tissue?
3. Name the fluids of the mouth, the sources of their supply and their characteristics.
4. Enumerate the glands of the mouth, both salivary and mucous, and describe their anatomical structure and situation.
5. What portions of food are digested in, and absorbed by the coats of the stomach, and what by the intestines?
6. Name the secretions employed in the process of digestion, in the order in which they are furnished, and the office of each.
7. What is the composition of the blood?
8. Give the specific constituents of the plasma.
9. Give the circulation of the blood.
10. What change does the blood undergo in the lungs?
11. Describe the embryonic tooth from its earliest inception to the point of calcification.
12. State the order and the time of the eruption of the deciduous teeth.
13. Same of the permanent teeth.

14. What are the soft and what the hard parts of a tooth ; and which, if either, is true bone ?
15. Name the salts which compose the inorganic portions of teeth, and their relative proportions.
16. Describe the structure of the skin.
17. Describe the glands of the skin, and their secretions.
18. What are the various causes producing odontalgia ?
19. Describe the tumors which occur in the mouth, designating the more frequent and the more rare.
20. How are the different varieties removed ?
21. Describe the different diseases to which the maxillary sinus is liable.
22. Describe, in detail, the treatment of alveolar abscess.

#### OPERATIVE DENTISTRY AND HYGIENE.

1. How is decay of the teeth produced ? What is the principle ?
2. What agents operate as exciting causes ?
3. What are pre-disposing causes of decay of teeth ?
4. Can any thing be accomplished for the arrest of dental caries, either by general or local treatment, otherwise than by filling ? And if so, how much, and in what way ?
5. Why is decay arrested sometimes, without the aid of the dentist ?
6. Why does filling teeth arrest decay ?
7. What more can be done than filling, for the arrest and prevention of decay ?
8. What are the requisite qualities of materials for filling teeth ?
9. What are the variations found in sensitive dentine ?
10. Upon what do these variations depend ?
11. What is the nature of this affection ?
12. In filling teeth, what are the points to be observed, to secure success ?
13. Give the successive steps in filling a simple crown cavity in a superior molar. Also, in filling a proximal cavity of a superior central incisor, both with gold, (each one selecting his own method of using it.)
14. What principles are involved in the treatment of dental periostitis ?

15. What are the successive steps in the formation of alveolar abscess?

16. Describe the process of absorption, as exhibited in living organic tissue.

17. By what means is lost tissue restored?

18. Describe the process of granulation?

19. In what does a hemorrhagic diathesis consist?

20. What is the treatment for alveolar hemorrhage?

#### MECHANICAL DENTISTRY AND METALLURGY.

1. What are the best materials for taking impressions, and why?

2. What are the properties required for metallic model and counter-model, and what metals are the best?

3. How many sets of dies are necessary for the perfect swagging of metallic plates, and why?

4. What are the best metals for base plates, for artificial teeth, and qualities requisite?

5. Why are the base metals objectionable, and what are the bad results that may follow their use?

6. What are the objections to use of clasps in securing artificial fixtures?

7. What is the lowest standard fineness of gold admissible, and what objections to the lower standards?

8. What should be the relative fineness of the solder and the plate?

9. What are the alloys in gold coin, and how removed to make pure gold?

10. What are the agents used for removing the impurities and alloys from gold filings, and how used?

11. What are the alloys in silver coin, and how removed to make pure silver?

12. What flux is used when soldering metals, and why necessary?

13. What agents are used for pickling after soldering, and why necessary?

14. What are the advantages, and what the disadvantages in rubber for base for dental substitutes?

15. What are the objects to be gained by artificial teeth?

## CLINICAL DENTISTRY.

1. What are the various advantages in the use of the wedge in operating?
2. Methods of applying and changing napkins and compresses while filling.
3. Why is the prolonged use of the mallet less irritating to the tooth and its surroundings than hand force?
4. What is Therapeutics?
5. What are the effects of counter-irritants in inflammatory diseases?
6. Dental medicines—their properties and preparation.
7. What is a poison?
8. The specific effect of creosote in the sac of an abscess.
9. The systemic symptoms of poisoning by arsenic.
10. The antidotes for arsenic.
11. The treatment for *cancrum oris*.
12. The best method of testing the strength of the heart's action before administering chloroform.
13. The best position for the patient while using anæsthetics.
14. Epulis—and treatment.
15. The best mode of treating external dental fistulas and maxillary abscesses.
16. The treatment of the antrum in cases of tumors or polypus.
17. Tempering chisels, fine excavators, and canal drills.
18. Give the differential process of securing the requisite temper for the various shapes and sizes of pluggers and burnishers.

So much for the questions. The answers were examined in a faculty meeting, and freely discussed. The whole number of questions is 86. The correct answers of those who passed, range from 71 to 83, the average being about  $91\frac{1}{2}$  per cent. We believe the friends of the faculty and Trustees will approve of the award. A young man, of "good moral character," who can, without time for deliberation or opportunity for consultation, correctly answer  $91\frac{1}{2}$  per cent. of the above, ought to receive the honors of the institution, especially when he has previously written a good thesis, and successfully defended it before the faculty in a verbal examination. Such being the record of the late



class, its members are cordially commended to the profession as brethren "in full communion." W.

### CLOSE OF THE COLLEGE SESSION.

THE Commencement exercises of the Ohio College of Dental Surgery were held in the amphitheater of the College on Wednesday evening, March 6th. The degree of "Doctor of Dental Surgery" was conferred, by James Taylor, M. D., D. D. S., President of the Board of Trustees, on the following members of the Senior Class :

W. C. Stanley,	H. L. Ambler,	W. A. Grahame,
Frank McGinnis,	J. T. Child,	R. F. Ludwig,
F. Peabody,	Byron Eaton,	J. R. Ireland,
G. W. Field,	P. T. Clark,	J. Ropp.

He also, in the name of the College, presented each of them with a handsome copy of the Holy Bible, this being a parting gift of the institution to all its alumni. His address to the candidates was heard with interest, not only by them, but by the large audience assembled.

The valedictory on behalf of the faculty, was by Dr. Joseph Richardson, late a professor in the college, but was read by Prof. Spalding, Dr. R. having been detained by the death of a friend. The response from the class was read by Dr. W. A. Grahame. The proceedings were brief, appropriate, and well received. The Dean of the faculty announced that the session of 1866-'67 was now closed, having lasted three weeks longer than any previous one; and that the next session would begin next October, and continue five, and possibly, six months. The audience was dismissed with the "benediction," by ———

———, who had appropriately opened the meeting by prayer, and reading and paraphrasing a portion of the sacred scriptures. The exercises were attended by many members of the profession from abroad, who have the thanks of the faculty for their interest in our labors. The names of those who received honorary degrees will be published in a future number. W.

### SELFISH.

THE writer of this is under so many obligations to his professional friends, and others, for the many favors and evidences of sympathy received during and since his recent severe illness, that he finds both tongue and pen utterly inadequate to a proper expression of his thoughts and feelings. May the blessings of Him who created friendship, be showered down on the heads of those who so divinely practice it! W.

## DR. BROWN'S DENTAL DEPOT.

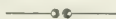
" John Brown's body lies mouldering in the grave ;  
But his *soul* is marching on : "

And J. M. BROWN'S DENTAL DEPOT stands towering, corner of Fourth and Walnut, and *its soul is marching on*, and has been ever since the body took up its present locality, in " the good old days " when a cobbler's awl was a standard excavator, and a tailor's bodkin an approved plugger. Then, and for long years afterward, Dr. Brown kept the only Dental Depot in the great Mississippi Valley. It was the *sole* depot, and he the *soul* of it. It and *he* have marched to the music of professional progress ever since ; or the profession has marched to the tune of the Doctor's progress, we don't know which. They were together then, and are together now. When *any thing* is wanted, call on J. M. Brown, or *send him word that you want it* ; and it will come.



## BALTIMORE COLLEGE OF DENTAL SURGERY.

THE Twenty-seventh Annual Commencement of this institution was held on the evening of Feb. 28th. The usual exercises, prayer, addresses, etc., were appropriately conducted, and the degree of " Doctor of Dental Surgery " was conferred on thirty-one candidates, of whom Maryland furnished 10, Virginia 6, Alabama 3, Pennsylvania and Indiana, each 2, South Carolina, Florida, North Carolina, Tennessee, Louisiana, Mississippi, District of Columbia, and France, each 1. We are glad to see such evidence of prosperity on the part of this institution. W.



## IN MEMORIAM—A. M. LESLIE, D. D. S.

At a meeting of the Dentists of St. Louis, held in the Missouri Dental College Infirmary, on the first of December, 1866, Dr. H. J. McKellops was called to the Chair, and Dr. E. Hale, jr., appointed Secretary.

The death of Dr. A. M. LESLIE was announced by the Chair, and a committee of three appointed to prepare and submit suitable preamble and resolutions expressive of our feelings on this sad and mournful dispensation of Divine Providence.

The sudden and unexpected close of an active and eventful life, in a career of enterprise and usefulness, can not fail to arrest the

attention of the most thoughtless, and shroud an appreciative circle of acquaintances in the deepest gloom. Such was signally the case when the startling intelligence was flashed over the telegraphic wires, that our beloved LESLIE had died of cholera in the city of Memphis, on the morning of the 30th ult., in the 50th year of his age. Away from all the ties and warm endearments of home, and wife, and children, who loved and honored him in no ordinary degree, his death is truly saddening to our hearts.

A. M. LESLIE was a native of Edinburgh, Scotland. He was one of the first students in the Ohio College of Dental Surgery, in which he graduated in 1847, and soon rose to an honorable position in the faculty. He practiced his profession in Cincinnati until failing health compelled him to abandon its onerous duties and heavy responsibilities, when in 1856, he came to our city and established the Mississippi Valley Dental Depot; and, although he then became a manufacturer and dealer, he lost none of his love for the profession or sympathy with its practitioners. Nor was he any less desirous to see it made more useful, honorable and dignified by properly educating and elevating its members. To this noble enterprise he devoted much of his time, talent and means. His active and vigorous mind, suavity of manners, iron will and indomitable energy enabled him to accomplish a great deal of good.

In the formation and conducting of Dental Societies (of which he had large experience) Dr. Leslie was unsurpassed.

In the organization and starting of the Missouri Dental College he was a tower of strength, and stood unrivaled. One of the last acts of his life was to influence a student to come from a distant State and enter its halls. Therefore,

*Resolved*, That in the death of A. M. LESLIE, D. D. S., the Dental profession has sustained a great loss, and the Missouri Dental College one of its main pillars.

*Resolved*, That in token of our sorrow for his death, affection for his memory, and high appreciation of his many virtues, and the bright Christian example of our departed friend and brother, we will place these proceedings on record in the books of the Missouri Dental College, and publish them in the Dental journals of the country.

*Resolved*, That we hereby tender our true and heartfelt sympathy to the bereaved and sorrowing family and relatives of our deceased brother.

*Resolved*, That these proceedings be published in the *Missouri Democrat*, and copies, in gilt letters, on mourning paper, be furnished to the family. All of which is respectfully submitted.

H. E. PEEBLES, D. D. S.	} Committee.
AARON BLAKE, D. D. S.	
DR. ALEX. DIENST.	

# THE DENTAL REGISTER.

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## Original Communications.



### ENLIGHTENING AND DIRECTING PUBLIC OPINION IN REGARD TO THE DUTIES, RESPONSIBILITIES AND REQUIREMENTS OF DENTAL PRACTITION- ERS.

BY J. M. RHOADES.

Read before the Ohio State Dental Association.

There is no profession in which its members are so prone to grow negligent in endeavoring to educate the people as in the science of Dentistry; thus rendering them less qualified to judge of the requirements of the Dentist than of other professional men. Thus, having but little, if any, means of comparison, they are not disposed to give to the well qualified Dentist that preference and prominence over the quack he deserves, and thus holding out a continual inducement for the ignorant and unworthy to come in competition, and successfully, too, for a time, even with the most eminent of our profession.

This is a source of continual regret and annoyance to the honorable practitioner of Dentistry.

Yet, when we view the past, and, to some extent, the present history of Dentistry, and see how studiously the people were taught to believe that Dentistry was merely a trade or occupation like that of any other mechanical busi-

ness, and he whom nature had endowed with mechanism, by cultivation of the same, would make a scientific Dentist, (mechanically speaking) and that there was nothing of a healing nature pertaining thereto.

Should we then wonder at their ignorance, or be surprised that they should still cling to their prejudices, and particularly so when we find them encouraged in this by a large body of unscrupulous charlatans, who are willing to make any and every sacrifice to gratify their own base passion to the greed of gain.

To eradicate this growing evil, in my opinion, we have but to give the people as fair an opportunity to judge our qualifications as they have of those of the other professions.

This, I think, can only be done by giving them an opportunity of acquiring a sufficient knowledge of anatomy, physiology and hygiene as to know the importance of a thorough knowledge of those subjects by one who professes to be a practitioner of Dentistry. Without this degree of knowledge, how utterly impossible is it for people to judge, or even approximate thereto.

They have those of the other learned professions; why not of ours.

The clergy's public ministrations are laid open to the criticism of all. His audience are, to a large extent, competent judges of his pulpit efforts, and if he manifests ignorance, stupidity or superficiality, he forthwith falls in public estimation to the low level he deserves.

The lawyer is brought to a more rigid test. All his legal papers must be drawn up with the most scrupulous technical accuracy, or they will fail of their object. Here all great errors are open and apparent, and involve the reputation and standing of the practitioner; and likewise before the bar the lawyer is brought in open conflict with an opponent who is ever watching to pick a flaw or take advantage of his weakness or ignorance, and, perchance before a Court fully under-



standing the principles involved, and who indicates in his decision which party is right.

The knowledge and abilities of the Dentist in the practice of his profession cannot be tested in the same direct and open manner. The very nature of his business precludes it.

His is an inductive science, many of the truths of which are hidden in the secret recesses of life, only to be detected and demonstrated by the closest observation, of which the uninitiated have no conception.

His qualifications can only be judged by those who know how fearfully and wonderfully we are made, and are acquainted, at least somewhat, with the hidden springs of life.

It is the want of this general information on those subjects that induces even men of eminence in literature and the arts and sciences to countenance and even encourage the most ridiculous forms of quackery.

First to disabuse the public mind of the hoary errors that have reached them through years of wrong teaching, we must give them a true idea of what constitutes rational Dentistry by teaching them its basis, teaching them that all diseases are problems to be solved by deduction; that are governed by known and fixed laws, that are as incapable of variation or change as those that govern sun and moon.

That these laws and their bearings are not all known and perfectly understood as yet by the profession itself, we admit. But that there are a sufficient number of them discovered and fully established to warrant the deduction as to their true existence, we affirm, and that the great Dental body are constantly progressing in making new discoveries and new applications which the experience of every day proves, and that the Ohio State Dental Association may be a thorough advocate and co-worker in this great and good cause is the sincere wish of your humble essayist.

## ANIMAL HEAT.—AN INAUGURAL THESIS.

BY W. A. GRAHAME, D. D. S.

In offering a thesis upon a subject like this, we presume that it is not expected that anything new will be advanced, because it seems that nearly all has been said that can be, unless scientific research should, hereafter, develop some things that are now unknown. Then, it only falls within our province to say what we know and have read on the subject.

Heat, in all its modifications, is a very abstruse subject. It is an agent that man will use in almost numberless ways, and never give himself over to thinking of its mysterious qualities. "The unlettered rustic" will put some wood on the fire, sit down and warm himself by it, and never wonder *why* the fire burns, nor *how*. The blacksmith puts his iron into the fire, not knowing *why* the heat destroys the cohesiveness of its particles, so that they are made movable among each other; nor does he care, so long as it serves his purposes. And indeed, we all use heat for mechanical and other purposes, not knowing the amount required for the one thing, nor the reason for the other.

But, in entering into a short essay on the subject of VITAL HEAT, we will define (as nearly as possible), *heat* to be the sensation produced when we approach near a warm body; and *caloric* is said to be the *cause* of that sensation.

*Animal heat* is that heat existing in all warm-blooded animals, which is necessary to their existence as living beings; but cold-blooded animals, too, have a certain amount of this heat, although so little that it can scarce be noticed to be above that of the element in which they live, which may be accounted for on the ground that they have feeble circulations, and their food is of that kind that does not produce much heat; but it is presumed that it is produced in all those animals that give off carbonic acid in respiration. The temperature of the human body is about 98° Fah., but varies a little according to circumstances. As an instance,

exercise, active, vigorous exercise, causes an accelerated circulation, an increase of food is thereby demanded, more oxygen is taken into the system; consequently, more heat will be generated. Then, on the contrary, rest or sleep will have an opposite effect, because respiration is somewhat diminished, less carbonic acid is thrown off, and the temperature necessarily falls a little—perhaps as much, or nearly so, as it was increased by the exercise. Age, diseases, habits, &c, have some influence, and cause a slight variation of the temperature of the body. A man thinly clothed on a wintry day will wish for more food to supply the deficient amount of Animal Heat, because nature demands that the temperature remain at nearly the same degree at all times. In the febrile diseases, the amount of heat is sometimes very greatly increased. Cases of typhoid fever sometimes reach  $103^{\circ}$  and  $104^{\circ}$  Fah., and even higher. One case of tetanus rose to  $110\frac{3}{4}$ . This high temperature often falls very rapidly, and with it a corresponding retardation of the pulse; but in such diseases as cholera or yellow fever, quite the reverse will be observed. In cholera, when the respiration becomes difficult, and the patient changes from a natural to a dark color, we suppose the blood is being deprived of its due amount of oxygen. Then the temperature falls very low, according to some observers as low as  $74^{\circ}$  Fah. So we cannot but believe that respiration and Animal Heat are very closely connected.

We do not know that the ancients were in possession of any very well defined theories on the subject of Vital Heat. Many of their best physiologists believed that it was generated in the lungs and heart. Some thought in the lungs alone, and others in the heart. Mayo believed and taught that the *object* of respiration alone was to produce heat, and refuted the doctrine that the blood was cooled in the lungs, which was taught by some at that day. Black's theory was that breathing caused a combustion in the lungs which produced heat. His was not very generally received, because if the lungs generated all the heat, it was thought

that, like a furnace, they and the parts immediately about them would be much warmer than the more remote parts of the system. Dr. Crawford advanced this theory, that Animal heat was generated in the lungs, and that arterial blood had a greater capacity for heat than venous ; but as an argument against this theory, Dr. Davy, near that time, demonstrated the capacity for heat in both kinds of blood to be nearly equal, and the result was that his theory was generally abandoned. Sir Benjamin Brodie, Chossat, and some others maintained that Animal Heat was dependent upon and produced by the action of the brain, nerve centers and nerves, they being active, a change of particles takes place, and thus produces this heat. And, indeed, it cannot be doubted that the nervous system has its share of the influence on the heat of the body, as proof of which, the advocates of this theory argue that a paralyzed limb or portion of the body is always colder than if possessing its normal nervous power ; or an animal, with the sympathetic nerve divided has an increase of heat, and if under the influence of chloroform, the temperature will fall, and rise again when the influence has passed away. The brain and nerves seem to have some effect on the heat of an intoxicated man, that he, stimulated by liquor, can subject himself to so great a degree of cold and not apparently suffer, as he otherwise would not be able to do. However this may be, owing partly to another cause. Professor Sontag, astronomer to Dr. Kane's expedition to the arctic regions, in his history of that expedition, speaks of the inhabitants of those regions keeping up Vital Heat in a great measure by eating meat and drinking warm seal oil ; and such is the case among the Esquimeaux and Greenlanders ; and Dr. Kane's men had not long been in those cold countries until they were eating and drinking great quantities of the same, and found that they were thereby enabled to endure a much greater degree of cold. The climate seemed to create the appetite for that kind of food which produced the greatest amount of heat, or that con-



tained the greatest amount of carbon and hydrogen, which enter into the tissues, uniting with the oxygen, and thus producing heat. The case is reversed with those in the tropical climates; for we find them subsisting almost entirely on fruits, vegetables, &c., food that is not calorific. But the theory that has received the sanction of most physiologists of this day, is that Animal Heat is developed on the production of carbonic acid by the combustion of carbon and the consumption of oxygen, which is accomplished in several ways, as in food, respiration &c., although it does not appear that it is altogether dependent on this and nothing else, but no doubt it is in a great measure so. The inference may be drawn that it is developed by means of chemical changes that are always taking place while life lasts, each organ performing its duty in the matter. That heat is developed by oxygen uniting with other substances, is self-evident, and the process of oxydation gives off as much heat when it goes on slowly as when fast. "An iron rod burned in oxygen gas gives off no more heat than if merely oxydized in open air," but it is much more perceptible. The heat of the body is general, but may be, as by local inflammation, locally increased; that is, in the inflamed part, and yet the principal part of the blood will remain at its normal degree. But an increase of heat in the body, or general system, must be caused by a greater action of the organs producing this heat, and a decrease, the want of this action. It has been said that Vital Heat and respiration are closely connected. An objection brought against this theory by some, is, that if oxygen taken into the lungs produces heat, that nature would have made the proportions of oxygen to those of nitrogen in atmospheric air greater than really *now* exist. The reason nature has not done this is that it would have been an extreme equally as injurious as too little oxygen would be, which is demonstrated clearly by inspiring nitrous oxyd gas, the effects of which are well known. In regard to the Vital Heat of animals, birds, fishes, &c., &c., much might be



said of interest. In a few words, however, it is presumed that it may be accounted for on these same physiological facts and principles that have just been mentioned. But we see a great difference. Those animals which hibernate lose many degrees of heat, because of inaction and loss of fat.

We observe the temperature of birds to be near  $104^{\circ}$  Fah. They have active circulation of the blood, and respiratory organs larger in proportion than man. Fishes that breathe by means of lungs have a temperature of nearly  $45^{\circ}$  above those that breathe by means of gills. So we see that heat is a very common result of chemical action; but there is something difficult to understand in its production, distribution and assimilation. The food of plants is taken from the earth, air and water, and by means of their organs is appropriated to the nourishment and growth of the same, forming the various compounds of the plants which make the food, fuel, &c., for the animal kingdom; and, again, by the life, death and decay of which these agents are set free, and go to the formation of others.

Thus it is that we live. In all the processes and the economy of life, there is a system, and these are mutually dependent on each other; and that this system is as truly founded on laws, fixed, we are as sure as we are, that astronomical calculations are based upon the fixed mathematical laws of geometry, or the measurement of straight lines and circles. But yet we are in ignorance of many of these laws; indeed, we think they are only known to the great God who made man "and all things else," and breathed into him the breath of life, and he became a living, *warm*, breathing soul.



#### A NEGLECTED COMMUNICATION.

We find among our papers an article entitled: "Number of teeth filled where the nerves have been destroyed, or were already dead, and the time when filled, commencing with April 26, 1864, and ending December 31, 1865."

The report goes minutely into detail, giving the patient's initials in each case, the particular tooth, and how filled. This we find too tedious for publication, but will gladly publish the annexed summary, furnished by the writer. No name is appended to the paper, but, if our memory is not treacherous, its author is Dr. Benedict, of Detroit, and it was read before the Michigan State Dental Society, January, 1866:

Whole number reported in twenty months.....	77
Number filled with gold.....	55
“ “ “ Wood's metal.....	9
“ “ “ tin.....	6
“ “ “ Lawrence's amalgam.....	2
“ “ “ amalgam of silver and tin.....	5

## CLASSES OF TEETH.

Inferior anterior molars.....	13
“ posterior “.....	1
“ “ bicuspid.....	4
“ anterior “.....	2
Superior posterior molars.....	4
“ anterior “.....	9
“ posterior bicuspid.....	8
“ anterior “.....	15
“ “ cuspidati.....	4
“ lateral incisors.....	7
“ central incisors.....	9
Not marked.....	1
On left side of the mouth.....	41
“ right “ “.....	35

Some others have been treated and filled which I have not put down in this report; but none, as far as I know of those not reported, have given any trouble since being filled. Of those reported, a few have had slight touches of dental periostitis; but some have recovered without any medical assistance, while others have readily yielded to the application of iodine, cooling medicines and warm bath for the feet. And so far as I am aware, all are still retained as useful members in their respective dental arches. Some few have quite interesting histories, some of which I will relate:

One filled on the 10th of November, 1864, for a young

lady of fifteen or sixteen years, was the left superior anterior molar, decayed on the anterior approximal side. In excavating the cavity, I found the nerve slightly exposed, but did not wound it. It was in the early part of summer. I capped it with Hill's stopping, and filled with *os artificiel*, in hopes to save the nerve alive. I had just commenced to repair her teeth, and expected to be some time in doing it, as they were very bad, and she could not come regularly as she attended school. I therefore let the temporary filling remain, until about through with the rest, when I removed it, and attempted to fill with gold; but in doing so, my assistant happened to strike when I was not quite ready, and drove the instrument into the nerve. I then applied arsenious acid to kill it, and proceeded in my usual way to remove the dead nerve, which I accomplished, except in the anterior buccal fang. I then took a small reamer of Dr. Palmer's pattern, and commenced to enlarge the nerve canal in that fang; took particular pains, as I supposed, to have it follow the canal, but before it had gone over two lines it appeared to be through the root into the flesh. Whether it cut through the side of the fang, or whether through some freak the root was not fully formed, I was not able to tell. I could not find any root or any place where the instrument had left the nerve canal. I applied a pledget of cotton with creosote, and next day, on removal, a thin, bloody, watery fluid flowed quite freely. I then applied the creosote, with a little iodine. She was gone several days, and when I saw her next, pus had formed and discharged through the gum, about two lines above its margin. I probed through the opening, but found no root above where the point of the instrument appeared to leave it. I syringed it out, and applied creosote and iodine again. In a few days, the gum healed, and I carefully removed the cotton from the fang, took a flat bur and enlarged the lower part of the canal to three times its size, about a line and a half in depth, then fitted a piece of lead the size of the bur, with a point fitting the nerve canal, allowing it

to extend up the fang as far as it could, without coming in contact with the flesh. I then pressed the lead into the recess made with the bur with a burnisher until it was packed tight against the walls. I then filled the other fangs and crown with gold, and so far it appears as solid and firm as any tooth.

Another that I filled for a Mrs. S., on the 23d of August last, has some peculiarities about it. It was a right central. In February last, she had applied to a Dentist to have her teeth fixed, the centrals being decayed on the approximal surface, but not to the nerve. He put a wedge between the teeth to separate them, and appointed a day to fill, but she being sick, did not come for ten or twelve days, when he cleaned and filled them, the right one being very sore. In about six weeks it suppurated, and she had it lanced, and from that time until I saw her, which was the first week in May, it had been leeches and lanced several times, but nothing else done to effect a cure. I found the gum much inflamed, and raised up over the root of the tooth was a bunch of about three lines in diameter, showing pus just under the mucous membrane. I lanced deeply, and probed to the apex of the root, took out portions of the alveolus, syringed thoroughly, first with castile soap and water, and afterwards with water, then injected creosote and iodine, and placed a pledget of cotton, wet in a solution of iodine and glycerin in the wound, to remain until the next dressing. I drilled into the nerve cavity from the underside of the tooth, and found the nerve dead and mostly gone, and the canal nearly dry. I had the misfortune to break off the point of an instrument in the root, up near the apex, and could not readily get it out; so I applied iodine on cotton, in hopes to rust it out, and continued the application of creosote and iodine, three or four times, in its full strength, each time washing the sore out before applying; after which, I made a weak solution of creosote, iodine and glycerin, and after washing it out with water, would force it up about the root with a syringe, and then



apply a pledget of cotton wet in a solution of iodine and glycerin in the mouth of the wound, to keep the air from it. After some drawbacks, on account of sickness of the patient and absence from the city, I found, on the 23d of August, the gum all healed, and to all appearance healthy; and having succeeded in removing the broken instrument, I filled the nerve cavity and dismissed her. Two months after, I saw her. She said it was all right, except it did not feel quite so strong as the other. Histories of others could be given; but I am making this paper too long already. But it shows that heretofore too many teeth have been sacrificed, and the forceps used too much. And we still see the advertisements in the papers, "teeth extracted without pain," holding out inducements to those who know no better, to sacrifice a tooth when it aches a little; yet we would not recommend every one who styles himself "Dentist" to undertake to treat such teeth until he has studied them thoroughly, and has a little more knowledge of the healing art.



PRESIDENT'S ADDRESS TO THE GRADUATES OF  
THE OHIO COLLEGE OF DENTAL SURGERY,  
March 6th, 1867.

BY JAMES TAYLOR, M. D., D. D. S., PRESIDENT OF THE BOARD  
OF TRUSTEES.

*Gentlemen Graduates:*—The Board of Trustees learn with great pleasure that you have pursued your studies with commendable zeal during the session now brought to a close. We are informed that your examinations have been most thorough and highly satisfactory. You are therefore recommended with great unanimity, for the highest honor of this institution.

We know with what commendable pride and often anxiety, this consummation of study is looked forward to; your anxious hours of vigilant toil and study are about to receive their due reward.



You have, gentlemen, now just fairly and honorably mounted the first step on the ladder of professional life. This is *your commencement*. I doubt not, to those of you who may live and practice twenty years, it will appear as the commencement of your studies. You now go forth to test the principles of practice taught in these halls. If you love your profession, and wish to see it make continued progress, put those principles to the most thorough test. If you find error, demonstrate it; your *alma mater* will feel proud of your achievement, and hail you as true sons. Realize, gentlemen, that the foundation of your studies are only laid, and if well laid, a great work has been accomplished. The superstructure is in your own hands. What a world of thought and mind work invites you onward! Think not that Dental science is perfect—that every secret of our complex organization has been revealed—that art has mastered all the perplexities of mechanical Dentistry; that chemistry has fully unlocked all her wonderful store-house of Dental necessities.

There is not, gentlemen, a single department of our science but stands just as inviting for further research as when Hunter commenced his experiments to prove the vitality of the Dental organs. Now, as then, the seeker after truth, sees and must feel that there is a vast amount yet to learn.

The wonders of nature, the harmonies of creative wisdom, the mysteries which envelope the facts of science yet unrevealed; and, we doubt not, full as grand and beautiful as those already revealed. May it not be that we have just cleared away the rubbish which hides the brightest gems of truth, and which shall sparkle in your *crown of rejoicing*?

God has implanted in almost every heart a desire for knowledge—a longing to know more and more of the mysteries of creative power. Every additional gleam of light reveals some new beauty, and thus the lover of science is charmed on and on, ever feeling more compensated for his labor and study by the gratification received. Every department of science is yet rich in hidden treasure. The specialty you

have chosen opens a wide field for study. Look at anatomy and physiology—the human system—the most wonderful piece of Mechanism ever devised. Who can understand and explain the human system—the mysterious springs which govern our every action. “Fearfully and wonderfully” are we made!

A life's study would not clear up all the wonderful operations of the varied functions of the body. We take a tooth—what a study it affords! Could we expose a Dental sac at its earliest stage of development, and watch each particle as layer after layer of enamel, cementum, and dentine are so nicely arranged. Could we see that silent, perfect and unerring laboratory of nature at work, as she eliminates and carries to the very spot the lime and other ingredients for this set of organs, we might to some extent, realize the exclamation of the psalmist when he says, “I am fearfully and wonderfully made!”

We might make illustration after illustration, showing in every department future labor. Take one other: Chemists now contend that man is a chemical compound—the teeth decay by chemical action; why then, not replace the carious portion by the aid of chemistry? May we not hope that chemical science will some day enable us to introduce into the cavity new dentine, and cover the same with enamel as perfect in color and durability as the original. From our present stand point we see difficulties in the way. As we ascend higher up the hill of Dental science, these difficulties may vanish and a clear sky open upon us. The road to distinction may already be seen, and we merely wish to incite you up the pathway of knowledge. We fear not the really ambitious. Those *determined to do* will reach a high elevation.

This, gentlemen, is a *diploma* which may truly be considered a certificate of qualification. It, however, confers a right or privilege which is to practice Dental surgery in this

State, and by implication and courtesy, this right is extended all over the United States. I might say all over Europe. Yea, all over the world, for in no quarter can you go but you will find this diploma respected. It dispenses with the examination of a medical board in every country I know of, and generally carries with it an introduction to public confidence. May it ever be thus honored, not only abroad but at home—honored by the recipients, and thus an honor to the Institution by which it is conferred.

Young Gentlemen, the duty now before me is a pleasant one, and it has been rendered more agreeable by the very favorable testimony which the faculty have given of your character and attainments. This is an important and momentous occasion in your lives. Permit me then, to counsel you to be ever diligent in the pursuit of general and professional knowledge.

In accordance now with the authority committed to me as President of the Board of Trustees, I confer on each of you, this Diploma of DOCTOR OF DENTAL SURGERY, and also, with great pleasure, present to you a copy of the Holy Scriptures with the earnest request that you will ever make it "the man of your counsel" to guide you in the path of duty and trial in this life, and that you fail not to attain the blessedness and the glory of the life to come.

Gentlemen graduates, you have now received your sealed credentials. The seal bears this devise: An open book with the motto, "Science combats disease." The book of science is open to you. You are invited to study well its pages. It contains no treasure which the diligent student may not claim.

You now go forth to test your weapons in this great combat; may they ever be directed by those great principles on which our science is based. Thus directed and skillfully used, success will crown your efforts.

There is no department of the healing art requiring more patient perseverance and untiring industry than that you have chosen. There is not in Dental practice a place or corner for the lazy negligent practitioner. Every process of practice, whether in the mouth or laboratory, should be gone through with perfect accuracy. The least omission of duty, the least neglect, may, yes, nearly always *will*, result in failure. The most of our operations may be regarded as the adjustment of art to medical science. You need not only the profound knowledge of the physician, but the artistic taste and intelligent manipulation of the artist.

The honor and dignity of the profession should be sought in all your operations, ever remembering that the profession's character is in your hands, and the more noble and reputable this is made, the more useful you may become.

The terms of success may be summed up in a very few words: patient perseverance, continued study and a determination to excel. These three characteristics faithfully carried out will overcome every obstacle not insurmountable.

The first difficult operation you have, will likely call into requisition all the patient perseverance you can command, but recollect, that each difficulty mastered is a double success—a success in the operation as well as in the acquisition of knowledge for future use. If this mastery is thorough and perfect, one trouble less lies in your onward progress. Be patient, for your *patient* may need the same virtue. Cross purposes always give trouble in Dental operations. By your perseverance get all the skill you can, and by your kind, courteous, patient treatment of your patients, get all the assistance they can give; this accomplished, and at least half your troubles are ended. The old maxim “that any thing worth doing at all is worth being well done,” is especially applicable to Dental practice.

Continued study—the mind cannot stand still, and books are food for the mind; they are to a certain extent, essential



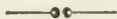
to its growth and development. They are made up of the recorded thoughts of the wise, the great, the good, and the learned. It is true we often find the crude speculative theories of the vain and foolish; but even politeness does not require us to consume our time in their perusal. Make books your study; you can then always select for your companions the good and intelligent. It is not necessary, neither is it desirable that you make Dental surgery your only study; yet you will be surprised to find how one department of science is more or less linked with almost every other, so that when you least expect it, you may find some thought, some fact which may be of great importance in your practice. In the broad field of general literature, you will find much to instruct and edify; and here you may take perfect rest and relaxation from your other studies. The wasted hours if gathered up and devoted to good books, would soon give a fund of knowledge of far greater value than the same amount of time spent in the most successful practice. "Idleness is the mother of vice." Use then, all your spare time in the acquisition of knowledge, not forgetting that true knowledge which cometh from the "Father of lights." Let me entreat you, therefore, first of all, study God's word; here is true "knowledge," that which you can rely upon in all the trials and afflictions of life, and which can light up your passage to the grave.

Determination to excel—our success will be somewhat in proportion to our aim in life. He who sits down content with mediocrity, need not expect excellence in his profession; this cannot be attained or *maintained* without persevering labor. The highest seat in *our synagogue* can not long be held by any one who strives not continuously to excel. There is, of late, a great clambering up the ladder of Dental science. You who are just starting, must look up, up all the time, or some more youthful aspirant will climb over your shoulders and gain the ascent far in your advance. Let your aim, therefore, gentlemen, be high. To some extent we hew out our



own positions and fortunes. A determined will knows no failure. A strong purpose, with truth and integrity to guide, exerts a wondrous power; the summit of the mount of Dental science has not yet been attained. He who first gains this eminence may well unfurl his banner, and cry "*excelsior, excelsior.*"

Gentlemen graduates, in behalf of the Faculty and Trustees of this Institution, I welcome you as brethren in the cause of Dental Science.



## ARTIFICIAL TEETH.

ANONYMOUS.

*Mr. President:*—Feeling the obligation resting upon me, as a member of this Association, to do something if it be but little, to sustain and make this meeting one of interest to us all, I thought best to profit by the prompting of our worthy Secretary to make a few suggestions in regard to the improvement of artificial teeth, feeling, however that the remarks which may be drawn out upon this subject from other members of this association, will be of much more interest than anything I may say, hoping, however, that our ideas and suggestions, as a whole, may add some little impetus to the ball of progress which has been moving forward so fast during the last fifteen or twenty years.

Who of us, as we look over the almost endless variety of shade, color, form, size and style of teeth adapted to all styles of work which we now have furnished to our hand, would have any desire to go back to the old carved blocks of ivory or the old painted gums, and first efforts of any of our manu-

facturers of artificial teeth? None of us, I think, who had experience in those days would like to be set back to the old starting point and lay aside the improvements of to-day. In looking back we see what has been accomplished in the past, and while we fully appreciate the advancement of the present time, may we not hope for a still greater advancement in the future, if we but *work earnestly* and labor on, each day witnessing some improvement which will be a step forward in the great work we have to accomplish.

The great object to be attained in arranging an artificial denture, should be to provide our patients with the very best substitute for the lost organs that it is possible for us to give them. Something that will be useful as well as ornamental, which will not only restore the features to their original form and beauty, but will enable them to masticate their food with comfort and ease. To accomplish both of these results is not always an easy task. For instance, you have a full upper denture to insert, the jaw is fully developed with thick, heavy alveolar border, the inferior jaw narrow and contracted, and perhaps the bicuspid bowed upon their outer face so as to throw the grinding surface of these teeth still further in. With continuous gum work there is not so much trouble in cases of this kind. You can arrange the teeth out or in to suit your pleasure, and lay on the gum accordingly; but with the rubber work it is more difficult. The gum of these teeth are almost on a plain with the face of the teeth, the upper edge of the gum curving slightly back. If you attempt to get a proper articulation with the under jaw, you have to set the points of them *in* very much, giving them a contracted appearance across the cutting edge, or else grind the gum almost entirely away, and setting the neck of the tooth further in. I have often felt the need of, and have tried to find teeth with the gum curved out from the face of the tooth more or less as the case may be, which would let the neck of the tooth drop in without cutting the gum all away, also a greater thickness of tooth in the bicuspid and molars through

from the outer face to the lingual surface, giving them a good broad articulating surface. A tooth of the same character with the cutting edge of the incisors and cuspids slightly inclined inwards, is often needed for the under jaw when that is fully developed, and the upper contracted and narrow, so the articulating surface may be brought well in, and more security given to the plate in mastication.

There are some few general defects in artificial teeth I think, which could be easily remedied. The lower incisors are too narrow, and the cutting edges are not curved inward as much as I would like in order to get good articulation, and the lower bicuspid are not bowed sufficient upon their outer face, leaving their outer cusp too full and prominent. I also think that a good many of the bicuspid and molars, both above and below, lack articulating surface, not thick enough through from the buccal to the lingual surface, and in a good many cases, the superior lateral incisors are not proportionately large. I think if you will take pains to compare them with the natural teeth, you will find that to be the case. There are also defects in shape and color, which I will not attempt to point out at this time, which you have all no doubt experienced. My experience and judgment may not correspond with many others present, and, no doubt, others have discovered defects which I have failed to see, or may differ with me entirely in regard to those points which I have mentioned. We are here to compare notes, and suggest ideas, and to profit by each other's experience. Let us have the expression of every one present upon this subject, as there is room for improvement; and let us hope that the day is not far distant when the combined efforts of so many workers in the same direction may result in producing the "*ne plus ultra*" of all our hopes and expectations.

## A LARGE ALVEOLAR ABSCESS.

BY DR. GAM'L JACKSON, WINONA, MINN.

Miss —, aged twenty years, of scrofulous habit, came to my office in January last to have some roots of teeth extracted. After removing those of the second superior molar of the left side, the patient said she felt a throbbing pain there. The adjoining wisdom tooth was decayed on the anterior side, and suspecting its roots to be diseased, I decided to remove it. I was surprised at the slight force required to luxate it, and was further surprised that so loose a tooth should still resist an apparently adequate effort to remove it. An examination disclosed that the tooth was still firmly invested by the process, and that the whole was held in place only by the attachments of the surrounding soft tissue. These were dissected off, when the entire investing process of the tooth, extending forward as far as the alveoli of the adjacent molar, and three-quarters of an inch upward, together with a cyst measuring at first seven-eighths of an inch by three-fourths of an inch in diameter, came away with the tooth. The cyst was egg-shaped, and occupied a horizontal position over the second and third molars, the small end pointing downward and forward. Its side was evidently penetrated by, and perhaps connected with the roots of the second molar, and it was further attached to the periosteum of the anterior buccal root of the third molar. The posterior root had not been reached by the encroaching lesion, but the other two were shortened about one-third of their length, thus forming a part of the smooth floor of the concavity occupied by the cyst. The abscess had entirely cut off the above described portion of bone equally on the palatal and buccal sides, the only remaining attachments being a thin strip at the alveoli of the second molar, and a similar one at its posterior perpendicular extremity, and these were so slight as to have been readily broken by the fingers alone.

The patient lives at a distance from this city, and I have not had an opportunity to examine the case since.

## DENTINITIS.

(*Inflammation of Dentine—Sensitive Dentine.*)

BY HENRY S. CHASE.

I have had many cases this winter of sensitive dentine at the neck of the tooth. Patients complain of return pain on touching, even lightly with a pin or the finger nail, that portion of the tooth immediately below the edge of the gum. This is the case even where there is no *apparent* corrosion or disintegration of tissue. Undoubtedly the microscope would reveal in these cases, a definite chemical disintegration of either the enamel, the dentine, or the cementum. In some cases it was so severe that cold water was as unbearable as the contact of hard substances. In some, the patients came with the request to have the teeth extracted. Fortunately I have had a good deal of experience with this class of cases, and commenced many years ago to treat them with creosote, and I do not remember of failing in a single instance by its application directly to the inflamed portion one, two or three times. With a little cotton on the point of an excavator and wet it with creosote, then rub it back and forth eight or ten times over the diseased part.



“HOW TO PROMOTE THE HEALTH OF THE DENTIST.”

*Editors Dental Register:*—Dentists as well as physicians generally know enough already as to the laws of health, but it certainly is surprising that men whose chief study is the human system, its diseases, and how to treat them, should be so utterly reckless of the laws of health as many medical men are.

In our specialty there are a few dangers to which we are particularly exposed. One is the vitiated atmosphere that



we often have to work in, owing to improper ventilation, and the close contact we are obliged to have with our patients.

Another is the position we are obliged to assume in operating at the chair; and a third is the habit that some Dentists have of frequently going without their regular meals, and over working when business is pressing.

Now it seems hardly worth while to write upon this subject, and yet it is one of vital importance. No Dentist needs to be told of the necessity of proper ventilation; we all understand it, and yet how many of us are poisoned to death and never think of it *till it is too late!*

As to the position we have to assume at the chair, that would do us no injury if we were content to limit ourselves to a proper length of time per day to work, and not try to make up time one day that we have lost another. If we ever lose time we *can't make it up, and it is no use to try.*

And, by the way, Dentists need all the leisure time they can have to study, and post up, and experiment, and when we have much leisure time, it is generally pretty good evidence that we need it, and need to improve it.

As to going without one's dinner, and then working till a late hour before tea as some of us do sometimes, and bent up over the chair at that, what shall I say? The men that do, call themselves fools, (not to be bettered,) and still they do it.

I have only to say, that when I was a student and time and again witnessed my instructor thus *abuse* himself, I resolved, as for me, *give me my regular meals, and especially my dinner, or let me starve;* and for ten years I have never failed to have my *dinner*, business or no business.

Gentlemen, a good stomach and good health are something worth having and *keeping*. Let us *care* for those bodies, the health of which is of such priceless value. S.

## Proceedings of Societies.

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### WESTERN DENTAL SOCIETY.

The Western Dental Society held its eleventh annual meeting in the infirmary of the Missouri Dental College, St. Louis, Mo., 12 o'clock, M., January 9, 1867.

The President, Dr. T. P. Abell of Chicago, being absent, the meeting was called to order by 1st Vice President Dr. C. W. Rivers, Tittsville, Ill.

Proceedings of the meeting in 1865 read and approved.

1. Dr. H. E. Depp of Sedalia, Mo., proposed for membership.

2. Treasurer's report.

Chairman of the Microscopic Committee, reported no progress. Report received and committee discharged.

3. The election of officers being in order, the following named gentlemen were elected for the ensuing year.

President—Dr. C. W. Rivers, St. Louis, Mo.

1st. Vice President—W. H. Evans, D. D. S. “

2d. Vice President—Dr. E. Hale, jr., “

Recording Sec'y—W. N. Morrison, D. D. S. “

Corresp'ng Sec'y—D. A. W. French, Springfield, Ill.

Treasurer—H. E. Peebles, D. D. S., St. Louis, Mo.

Dr. S. L. Edwards, Griggsville, Ill.; M. McElroy, Booneville, Mo.; C. W. Rivers; A. W. French; E. Hale, jr., Executive Committee.

Adjourned to meet at the same place at 2½ o'clock, P. M.

## AFTERNOON SESSION.

Executive Committee reported favorably in the case of Dr. Depp, who upon ballot was duly elected a member.

The Secretary reported a list of those who were delinquent in the payment of dues.

On motion of Dr. Edwards, the annual dues for the years 1866 and 1867, were abolished.

The executive committee reported that they approved of so much of the late Treasurer's—Dr. C. W. Spaulding—report as relates to advertising, moving chairs, Janitor's fee, etc.

The balance, \$190 39, which report says was given or loaned to Professor George Watt, the committee respectfully submit should be paid to the treasurer elect, Dr. Peebles, to be held subject to the order of the Society.

Dr. McCoy moved that when we adjourn we adjourn *sine die*, and that any funds remaining in the hands of the treasurer, be paid over to the Missouri Dental College.

Adjourned to 10 o'clock, A. M., to morrow.

## SECOND DAY, MORNING SESSION.

President in the chair. Minutes of last meeting read and approved.

Money in treasury \$190 39. Circulars, advertising, &c., \$7 00, leaving a balance in treasury of \$183 39.

On motion of Dr. A. Blake, the funds remaining in the treasury be divided equally between the Ohio and Missouri Dental Colleges. Unanimously adopted.

The following named gentlemen were elected delegates to the American Dental Association, viz: Drs. A. W. French, H. E. Depp, M. McCoy, I. Comstock, W. A. Cornelius, C. W. Rivers, J. Ward Ellis.

After a vote of thanks to retiring officers, Dr. Peebles moved that we adjourn to meet at the call of the President.

Adjourned.

W. N. MORRISON, Sec'y.

MINUTES OF THE TWENTY - THIRD ANNUAL  
MEETING OF THE MISSISSIPPI VALLEY ASSO-  
CIATION OF DENTAL SURGEONS.

The Association met, pursuant to adjournment, in the lecture room of the Ohio College of Dental Surgery, on Wednesday, the 6th day of March, at 10 o'clock, A. M.

The President, G. W. Keely in the Chair, called the Society to order. On calling the roll, the following members were found to be present, viz:

Drs. A. Berry, J. Taft, H. McCullum, J. P. Ulrey, W. H. Goddard, George Watt, A. S. Talbert, George W. Keely, James Taylor, W. H. Shadon, C. W. Spaulding, B. D. Wheeler, W. Taft, H. A. Beamer, J. G. Cameron, W. R. Lilly, W. H. Morgan, H. Newington, C. R. Taft, B. F. Rosson, W. G. Redman, W. H. Woodward, C. C. Chittenden, W. W. Hammond, W. C. Duncan, R. A. Mollyneaux, H. R. Smith and M. Wells.

President Keely read an address, giving some details of the history of the Association, and other matters of special interest. The minutes were read, corrected and approved.

The Executive Committee being absent, on motion, the following were appointed by the President to act as an Executive Committee *pro tem.*, viz: Drs. W. H. Morgan, H. A. Smith and H. C. Howells.

An intermission was given for the payment of annual dues.

A resolution was adopted to the effect that the Treasurer notify all members delinquent in the payment of dues for two years of their indebtedness, before erasing their names from the rolls.

On a motion unanimously carried, Dr. W. H. Goddard, of Louisville, Ky., was received into full membership. Dr. Goddard was formerly an active member, but for several years had withdrawn from the profession.

The Executive Committee reported the following Order of Business :

1. Reports of officers.
2. Election of officers to take place at 11 o'clock, Thursday morning.
3. Miscellaneous business in order at any time.

#### SUBJECTS FOR DISCUSSION.

1. Mechanical Dentistry. New Inventions.
2. Dental Specialties—their advantages and disadvantages.
3. Operative Dentistry.
4. "What can be accomplished for the arrest of Dental Caries, either by local or general treatment, otherwise than by filling?"
5. Anæsthetics.
6. Papers in order at the opening of each discussion.
7. Reading of an Essay by Professor C. W. Spaulding to be the special order for Thursday evening.

W. H. MORGAN,	} <i>Com.</i>
H. A. SMITH,	
H. C. HOWELLS,	

The Committee to procure the services of a reporter, having engaged one for the full session, their report was received and they discharged.

J. G. CAMERON,	} <i>Com.</i>
W. H. SHADOAN,	

Two o'clock, Wednesday afternoon was set apart for the Association to take action in regard to the meeting of the "American Dental Association," to be held in this city in July next.

On motion, the President appointed a Committee to Nominate Candidates for offices for the ensuing year.

Drs. W. H. Morgan, James Taylor and B. F. Rosson were appointed said Committee.



## REPORT ON PRIZE ESSAYS.

The Committee on Prize Essays would respectfully report that but one essay has been presented for their consideration, and that one too late either to comply with the requirements of the Association, or to allow sufficient time to read and examine it.

GEORGE WATT,	} Com.
H. A. SMITH,	
A. S. TALBERT,	
G. W. KEELY,	
C. M. WRIGHT,	

This report was adopted, and the Committee instructed to request the author of the essay presented, to again present it at the next annual meeting.

The same Committee was re-appointed.

The consideration of the adoption of a "Code of Ethics" was made the second special order for the afternoon session.

Adjourned until 2 P. M.

## AFTERNOON SESSION.

President Keely in the Chair. Minutes read and approved.

The Committee on Membership recommended the following names of candidates:

Drs. A. M. Moore, Lafayette, Ind; J. W. Keely, Brookville, Ind; C. R. Butler, Cleveland, Ohio; M. M. Oldham, Springfield, Ohio; D. R. Jennings, Ravenna, Ohio; E. S. Holmes, Grand Rapids, Michigan; J. A. Watling, Ypsilanti, Michigan; S. S. White, Philadelphia, Pa.; D. W. Gill, West Liberty, Ohio; George W. Field, Cincinnati, Ohio; C. M. Kelsey, Mount Vernon, Ohio; J. B. Beauman, Columbus, Ohio; W. C. Stanley, Dublin, Ind.; C. Bradley, Dayton, Ohio; J. Frank McGinnis, Bellefontaine, Ohio; P. T. Clark, La Grange, Texas, all of whom were unanimously elected.

First special order, viz: meeting of the American Dental Association.

On motion of Dr. J. Taft, the Society recommended that

no change of time be made, but a change of place in case of the epidemic occurring in the city.

On motion of Dr. Morgan, a committee of three was appointed to raise funds for the purpose of giving a banquet to the American Dental Association. An amendment was offered and accepted, to increase the number to nine, with power to the chairman to make further appointments as may be needed.

Committee appointed: Drs. A. Berry, Cincinnati, Ohio; W. H. Morgan, Nashville, Tenn.; W. G. Redman, Louisville, Ky.; A. W. Moore, Lafayette, Ind.; C. R. Butler, Cleveland, Ohio; A. S. Talbert, Lexington, Ky.; C. H. Harroun, Toledo, Ohio, and C. W. Spaulding, St. Louis, Missouri.

Second special order: adopted the "Code of Ethics" as adopted by the American Dental Association.

First subject for discussion was presented and lightly touched upon.

Adjourned until 11 o'clock, A. M. Thursday.

#### MORNING SESSION, SECOND DAY.

Adjourned until 2 o'clock, P. M.

#### AFTERNOON SESSION.

Met pursuant to adjournment, President Keely in the Chair. Minutes read and approved.

First subject resumed—"Mechanical Dentistry."

On motion, the discussion was suspended, and the Association went into an election of officers, which resulted as follows:

*President*—Dr. W. H. Goddard, Louisville, Ky.

*Vice President*—Dr. J. A. Watling, Ypsilanti, Michigan.

*Recording Secretary*—Dr. George W. Field, Cincinnati, O.

*Corresponding Secretary*—C. W. Wright, Cincinnati, O.

*Treasurer*—B. D. Wheeler, Cincinnati, O.

Dr. Morgan was appointed to conduct the President elect to the Chair.

Dr. Goddard not being present, Dr. Keely was requested to act *pro tem*.

On motion, the report of the Nominating Committee was referred back, with instructions to nominate standing committees.

President Keely, on retiring, introduced the President elect with a few remarks highly complimentary to the latter, which were fully endorsed by the Association. President Goddard replied by a well-timed expression of thanks to the Association.

The Committee on Inventions were requested to present for exhibition the articles in their possession.

#### ARTICLES EXHIBITED.

1. Several sets of teeth, plain and gum, of recent improved molds, prepared by Dr. S. S. White, for the Paris Exposition.

2. Rubber burs and scrapers, for lathe and hand.

3. An automatic mallet, with such an arrangement of springs that the fall of the hammer produces an elastic stroke, like that of the hand mallet. Dr. W. G. Redman, of Louisville, Ky., is the inventor. This was esteemed to be an improvement over all others heretofore exhibited.

4. A benzine gas generator, by J. H. Hall.

5. A spray producer, by the same.

The former was much admired.

6. A combined lip and cheek holder and duct compressor, by Dr. C. Bradley, Dayton, Ohio. This appliance was looked upon as the *ne plus ultra* of "Dentist's Assistants."

On motion of Dr. Talbert, a vote of thanks was extended to Dr. Bradley for his valuable invention. Dr. C. W. Spaulding expressed his appreciation of this appliance in the highest terms. In this he was heartily endorsed by Drs. Watt, Keely, Talbert and others.

8. A "piston plugger," exhibited by Dr. Keely on behalf

of Dr. Poore, of Dubuque, Iowa. This instrument not being in good order, its merits were not fully developed.

On motion of Dr. Will Taft, the President appointed a committee of two to nominate delegates to the American Dental Association. The Chair appointed Drs. W. H. Morgan and Will Taft.

The second subject for discussion was announced as in order: "Dental Specialties—their advantages and disadvantages."

Adjourned to 7½ o'clock, P. M.

#### EVENING SESSION, 7½ O'CLOCK.

President Goddard in the Chair. Minutes read, corrected and approved.

Second subject resumed and discussed briefly.

Third subject taken up: "Operative Dentistry."

Dr. Talbert asked the question: "When the first permanent molar is found so badly decayed as to be past preservation, previous to the eruption of the second molar, is its immediate extraction advisable?"

Professor C. W. Spaulding read an essay on "The Undulatory Theory of the Nerve Forces."

On motion of Dr. Talbert, a vote of thanks was extended to Dr. Spaulding, and a copy requested for publication.

This essay called forth an animated discussion on the nerve force; also, on the action of the sun's rays as essential to the preservation of health, Drs. Taft, Spaulding, Watt and S. S. White being much interested.

Discussion closed, and the Association adjourned until 9 o'clock, A. M., Friday.

#### THIRD DAY, MORNING SESSION.

President in the Chair. Minutes read and approved.

Third subject resumed and discussed to considerable length.

Dr. Spaulding disparaged the use of cotton for filling  
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apex of fang, as the chemical action of the creosote formed the carbolate of albumen in a few moments as perfectly as it could in months.

The rules were suspended for the introduction of miscellaneous business.

The Nominating Committee reported as follows :

*Executive Committee.*—Drs. G. W. Keely, W. G. Redman and D. R. Jennings.

*Committee on Membership.*—Drs. A. Berry, G. Watt and A. M. Moore.

*Publishing Committee.*—Drs. J. Taft, N. W. Williams and C. M. Kelsey.

W. H. MORGAN, } *Com.*  
WILL TAFT,

The report accepted and adopted.

The following were appointed delegates to the American Dental Association : Drs. R. A. Mollyneaux, H. McCullum, George W. Field, J. P. Ulrey, M. Decamp, W. A. Pease, Joseph Richardson, J. F. Johnson, N. W. Williams, R. Corson, W. R. Lilly, F. C. Eddleman, B. F. Rosson, C. C. Chittenden, A. M. Moore, D. R. Jennings, Francis Peabody, H. Newington, C. Bradley, W. H. Woodward, D. W. Gill, J. C. Ross, W. H. Morgan, R. E. Taylor, C. N. Woodward, G. N. Priest, J. Keely, D. Phillips and W. C. Stanley.

Dr. Francis Peabody, of Louisville, was presented as a candidate for membership, and elected.

A motion to pass to the consideration of the rubber question was carried.

The general expression of feeling indicated a determination to contest the claims of the Rubber Company.

The Treasurer was authorized to pay Dr. Will Taft the sum of twenty dollars as compensation for copying the minutes.

The Committee on Revising the Membership Roll was continued ; Drs. Will Taft and C. M. Wright, Committee.



The amendments proposed at the last annual meeting were acted upon, and declared adopted.

A motion to remunerate the janitor for services rendered was carried.

The following proposition was presented by Drs. W. H. Morgan, of Nashville, Tenn., and S. S. White, of Philadelphia, Pa.:

We, the undersigned, offer a prize of two hundred dollars (\$200), for the most approved essay on "THE BEST MEANS OF PRESERVING AND PROMOTING THE HEALTH OF DENTISTS."

Essays competing for this prize are to be referred to a Special Committee of five, to be appointed by this Association. They must be in the hands of the Chairman of said Committee as early as January 1, 1868.

This Committee is to be governed by the same rules as that appointed on General Prize Essays.

It is expected that the essay receiving the prize will consider the diseases to which Dentists are especially liable; their causes, modifying circumstances, prevention, etc., etc., including the subjects of ventilation, location of office, operating chairs, &c.

W. H. MORGAN,  
SAMUEL S. WHITE.

The Special Prize Essay Committee shall consist of the following: Drs. George Watt, C. W. Spaulding, G. W. Keely, W. G. Redman and S. Driggs.

Drs. Taft and Berry were appointed a Committee on Reporters for next annual meeting.

The following resolution was adopted:

*Resolved*, That it shall be the duty of the Recording Secretary to notify all committees and essayists of their appointment at least two months before each annual meeting.

The following amendment to the By-Laws was proposed, March 7, 1867:

"It shall be the duty of the Recording Secretary to notify

members of committees, essayists and delegates of their appointment within one month after the meeting at which they were appointed.

Adjourned to meet in March, 1868.

GEORGE W. FIELD, *Recording Secretary.*



### THE AMERICAN DENTAL ASSOCIATION.

The American Dental Association, at a meeting held in Boston, beginning July 31st, 1866, passed the following resolution :

*Resolved*, 1st. That a Committee of three be appointed to draft suitable suggestions upon the subject of accepting students, and that such suggestions be printed in circular form for the consideration of every Dental practitioner in the United States.

2d. That the expense of such printing and distribution be borne by the Association.

The undersigned, the Committee appointed according to the provisions of the above resolution, are fully persuaded that the time has now arrived when every Dental practitioner in the country can and should lend his aid in elevating the status of the profession, to the end that those who are soon to fill our places may be prepared, in a greater degree, to fulfill the reasonable expectations of the public and hold Dentistry in its proper rank among the learned professions.

Our Dental Colleges have done much, and will doubtless do more, but there is a work for the private instructor to accomplish, that students may be better qualified to enter such collegiate institutions and graduate with credit to themselves and honor to the profession. It is not only essential that Dental Colleges exist, but they should be furnished with properly qualified pupils to ensure that success and usefulness contemplated in their foundation.

Relying, then, upon the generous co-operation of our professional brethren, we respectfully submit the following "suggestions" as a basis in "accepting Dental Students:"

1. He must possess a good moral character, and at least a good English education.

2. He must be required to apply himself diligently for three years, including two full courses of lectures in some Dental College, to the following studies, viz :

*First Year.*—Anatomy, Histology and Physiology.

*Second Year.*—Pathology, Chemistry, Metallurgy and Mechanical Dentistry.

*Third Year.*—Operative Dentistry, Special Pathology, Dental Medicine and Microscopy.

We further suggest that the instructor examine his pupil in his studies at least twice in every week, and as much oftener as may be convenient—not, however, including his lecture terms—and should the student, after sufficient trial, fail to exhibit the necessary talent for our specialty, he should be kindly apprised of the fact, and advised to seek other fields of usefulness.

A. LAWRENCE, *Lowell, Mass.*

C. P. FITCH, *New York City.*

J. TAFT, *Cincinnati, Ohio.*



## THE ASSOCIATION OF THE COLLEGES OF DENTISTRY.

The Association of the Colleges of Dentistry met in the lecture room of the Philadelphia Dental College, in Philadelphia, on Wednesday, March 20th, 1867, at 10 o'clock, A. M.

Professor E. Parmley, President in the Chair.

There were present from the Baltimore Dental College, Professors P. H. Austin, F. J. S. Gorgas; Ohio Dental College, Prof. J. Taft; Penn. Dental College, Prof. T. L. Buckingham, George T. Barker, E. Wildman, W. S. Forbes, J. Truman;

Philadelphia Dental College, J. H. McQuillen, J. F. Flagg, Thomas Wardle, C. A. Kingsbury, J. E. Garretson, Lecturer of Clinical Surgery; New York Dental College, Prof. E. Parmley, F. D. Weisse, N. W. Kingsley, R. King Brown.

The minutes of the last meeting were read and approved.

The name of Prof. Judd, of the Missouri College of Dentistry, was presented for membership in this Association.

A committee of three was appointed to receive and report upon the application.

Committee consisted of Profs. George T. Barker, N. W. Kingsley and J. H. McQuillen.

After due deliberation, the committee made the following report:

We have examined the credentials of Prof. H. Judd as a delegate to this Association, and would respectfully report that owing to the peculiar position in which the institution now stands that he represents, we do not feel at liberty to recommend him as a member of this body, but would suggest that for the present he be invited to be present at the sessions of this meeting, and take part in the deliberations.

Signed,	GEORGE T. BARKER,	} Com.
	N. W. KINGSLEY,	
	J. H. MCQUILLEN,	

On motion of Prof. Weisse,

*Resolved*, That the resolutions presented, considered and approved at the last meeting of this Association be now taken up and adopted; after which, the following resolutions constituting regulations for all the Colleges represented in this body were discussed, pending which the Association adjourned to meet in the lecture room of the Penn. Dental College, at 3½ o'clock, P. M.

#### AFTERNOON SESSION.

The Association met at 4½ o'clock, P. M., at the place designated in the adjournment.

Minutes of the morning session were read and approved.

The following regulations and by-laws were now adopted :

I. That the rule of our Dental Colleges allowing one session in a medical college to be considered equivalent to one course in a Dental College be abolished.

II. That two full years of pupilage with a reputable Dental practitioner, inclusive of two complete courses of lectures in a Dental College, be required to entitle the candidate to an examination for graduation for the degree of D. D. S.

III. That a graduate of a respectable medical college, who has been under the pupilage of a reputable Dentist for one year, and shall have attended one full course of lectures in a Dental College, shall be entitled to examination for the degree of D. D. S.

IV. That eight years of Dental practice, including regular pupilage, will be regarded as equivalent to one course of lectures.

V. That the regular term of instruction in the Dental Colleges, be five months, the sessions in each to commence on the third Monday of October, annually.

VI. That students entering the Colleges later than the 10th of November, will not be credited for a full course, nor be eligible to graduation at the same term.

VII. That a candidate for graduation will be required to furnish a written certificate of having pursued the required pupilage, or period of practice.

VIII. Regarding the education of the profession as the primary and only object in the establishment of Dental Colleges, therefore,

*Resolved*, That whilst this Association does not forbid, it cannot approve the conferring of degrees upon persons who have not complied with the regulations agreed upon by this body, with the exception of gentlemen who have distinguished themselves as contributors to Dental science.

The regulation marked number eight was *very* warmly and earnestly discussed by almost all the members ; pending



which, a motion was made by Prof. George T. Barker to lay it on the table. The vote upon this motion being taken by Colleges was as follows :

Yea, Penn. Dental College.

Nay, Baltimore Dental College,

“ Ohio “ “

“ Philadelphia “ “

“ New York “ “

After some further discussion, and amendment of the resolution by Prof. Austin, the vote upon it was taken, and was as follows :

Yea, Baltimore Dental College,

“ Ohio “ “

“ Philadelphia “ “

“ New York “ “

Nay, Penn. “ “

Immediately after this vote, the Faculty of the Penn. Dental College announced through their Dean that the passage of this resolution rendered it necessary for them to withdraw from this Association, alleging for this movement their conviction that it is a rebuke upon their past practice of conferring degrees upon practitioners of Dentistry, and also a restriction upon their intended future course in this respect.

Adjourned until 9 o'clock to-morrow morning.

#### SECOND DAY, MORNING SESSION.

Thursday morning, 9 o'clock.

Association met according to appointment, in the lecture room of the Philadelphia Dental College.

The minutes of the last meeting were read and approved.

Dr. James E. Garretson presented the following :

*Resolved*, That we recognize that the truest dignity of the Dental, as any other specialty, is found alone in the education of its practitioners, and that this education should be one common to all medical men, and that it be the object of

the Association of Colleges to so educate their students—advancing to this object as rapidly as circumstances seem to warrant, thus merging the specialty into the common mother practice.

This resolution called forth some earnest discussion, after which, the following was submitted by Prof. R. King Brown :

Honoring the sentiments which animate Dr. Garretson in the presentation of his resolution, and favoring the fullest and most ample instruction on the part of Dental Colleges, but considering that a matter which should be left to the different Faculties, I respectfully move that the resolution be laid upon the table.

On motion of Prof. Weisse :

*Resolved*, That we re-consider the action of yesterday, in regard to the reception of Prof. H. Judd, of the Missouri Dental College as a member of this Association.

The vote was unanimous for the reconsideration.

On motion of Prof. Weisse :

*Resolved*, That on the establishment in the Missouri Dental College of such additional chairs as are regarded by this Association necessary to qualify Dental practitioners, viz : those of Operative and Mechanical Dentistry, the said Faculty shall become *ipso facto* members of this Association.

On motion of Dr. McQuillen :

*Resolved*, That the next annual sessions of the Colleges begin on the 15th day of October, 1867.

On motion of Dr. Kingsley :

*Resolved*, That when this Association adjourn, it be to meet in the city of New York, on the 19th day of March, 1868.

It was moved that the expenses of the Association be paid by an assessment, on the Colleges.

On motion of Dr. Weisse :

*Resolved*, That the Secretary be requested to have the Constitution, By-Laws and Regulations of this Association

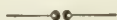
stereotyped, for printing sheets for distribution to the different Faculties.

J. Taft was appointed Treasurer of the Association.

A vote of thanks was tendered to the Faculties of the Dental Colleges of Philadelphia for the courtesy and kindness received at their hands by this Association during its sessions here.

The various Faculties, in the person of their various official officers, signed the Constitution and By-Laws, after which the Association adjourned to meet in the city of New York on the 19th of March, 1868.

J. TAFT, *Secretary*.



The second annual meeting of the Central Ohio Dental Association will be held at Galion, on the 14th, 15th and 16th of May next.

A. W. MAXWELL, *Secretary*.

## Editorial.

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### LIBERAL PRIZES.

THE Mississippi Valley Association, at its late meeting, renewed its offers of a gold medal of the value of one hundred dollars for the most approved essay on Alveolar Abscess, and the same for the most approved essay on Diseased Antrum. And two of its members, Drs. W. H. Morgan and Samuel S. White, offer an award of two hundred dollars for the most approved essay on Preserving and Promoting the Health of Dentists.

The following are the regulations by which the competitors and the committees are to be governed:

1. Essays competing for the prizes must be in the hands of the committees as early as January 1st, 1868.
2. The committees have power to reject all essays presented if regarded as unworthy of the award competed for.
3. Rejected essays are to be promptly returned, or disposed of as directed by the writers.
4. Each essay is to be accompanied by a sealed envelope containing the author's name.
5. If an award is made, the committee is to seal up the approved essay till it is reported to the Association, when it and the accompanying envelope are to be opened.
6. The copyright shall belong to the Association.
7. The committee shall not permit any one else to inspect or see the copy of any essay till after making a report to the Association.
8. Competition for these prizes is not restricted to any profession or country.

Medical as well as Dental journals are requested to publish these propositions.

Essays competing for these prizes should be sent to Dr. George Watt, Cincinnati, Ohio, who is Chairman of both committees.

W.

## IN MEMORIAM.—JOHN S. CLARK, D. D. S.

At a meeting of the Dentists of St. Louis, December 13, 1866, called for the purpose of taking suitable action in regard to the death of Dr. John S. Clark, a committee of four having been appointed, presented the following preamble and resolutions, which were unanimously adopted :

WHEREAS, It has pleased the Supreme Arbiter of the Universe to remove from among us Dr. J. S. CLARK, one of the pioneers of Dental Progress in the West, we feel that we have truly lost one of our most talented, energetic and useful members ; and being desirous that his labors and sacrifices in behalf of the science should be duly acknowledged, and that his claim to the honor of having been chiefly instrumental in bringing into notice and perfecting valuable improvements in Dental practice should be fully vindicated and handed down to posterity as a part and parcel of the history of the profession.

Dr. CLARK was born in Brooklyn, Conn., in 1813, and received his literary education in that State. He moved to St. Louis in 1840, attended lectures at the Medical Department of the State University of Missouri, and turning his attention to Dentistry, soon ranked among the first operators of that time. By invitation of the Faculty of the St. Louis Medical College, he delivered some lectures at the College to the medical students of that institution upon Dentistry. He practiced his profession in St. Louis till 1850, when he removed to New Orleans, where he soon took rank as the first operator in the city. In 1856, he commenced publishing the "*Dental Obturator*," one of the very best Dental publications that has been produced. He took his degree as Doctor of Dental Surgery at the Ohio College of Dental Surgery in 1851, was a member of the American Dental Association, and originated several valuable improvements in Dental practice. He returned to St. Louis in 1865, in poor health, but with undiminished energy, and commenced practice again in this city ; but his labors were short, as he was called to his eternal home on the 29th of November, 1866, after a short illness of a week. His energy, perseverance and devotion to the cause of Dental Progress had endeared him to the profession,



who feel that the place made vacant by his demise can never be refilled; therefore,

*Resolved*, That we regard the death of our co-laborer, JOHN S. CLARK, as a great calamity to the profession in which he had so long occupied a prominent and honorable position.

*Resolved*, That to Dr. JOHN S. CLARK the profession is, to a great extent, indebted for the successful and philosophical mode of practice now generally adopted for the extirpation of the pulps from the fangs of teeth by the use of broches, and filling the canals with gold, and also for the special elucidation of the process of plugging cavities with gold, performed by being rolled into cylinders and cones.

*Resolved*, That we tender the family of the deceased our heartfelt sympathies; and, though we mourn with them the loss of our professional brother and friend, we recognize in this afflicting dispensation only the accomplishment of the design of the Divine Creator, and bow with uncomplaining submission to the will of Him who doeth all things well.

*Resolved*, That these proceedings be published in the *Missouri Democrat*, and copies, in gilt letters, on mourning paper, furnished the family.

A. D. SLOAN,	} <i>Com.</i>
H. J. McKELLOPS,	
H. JUDD,	
W. N. MORRISON,	

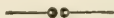
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## PROCEEDINGS OF SOCIETIES.

It is not long since there was room in the journals for lengthly, even *verbatim* reports of the discussions of the societies then in existence. Now the case is different. So many societies have been formed, and so much is written, that we can not give all that attention that we would like. We have now on hand a phonographic report of the first meeting of the Ohio State Dental Society, a full report (our own) of the Boston meeting of the American Dental Association, also of the Conn. Valley Society, the Miss. Valley Association, etc., etc. We hope our brethren will be patient. We try to do the best we can. We can not

always publish in the order received. Some are too long, some not ready for the printer, some are on subjects *now* agitating the profession, and are, therefore, hurried up. The REGISTER was started by the Miss. Valley Society, and it parted with it understanding that it would not cease to be its organ, and it came into our hands as, to some extent, the recognized organ of the Ohio College Association. With these facts in view, we impartially act as we think the cause of professional progress requires.

W.



### THE ASSOCIATION OF THE COLLEGES OF DENTISTRY.

FROM the official minutes in the present number, it will be seen that this Association has completed its organization. A preliminary meeting was held at Boston last summer, to consult as to its formation. All but the Baltimore College was there represented; and, as was then taken for granted, it has cordially and heartily taken hold of the matter. And now all the Colleges but one—the Pennsylvania College, present a united front, a uniform *curriculum*, a co-operation of action, that can not fail to increase their influence for good. We take it for granted that the Missouri College, by carrying out measures already in contemplation by its corporators, as we are informed, will place itself squarely on the platform of advanced and united Dental education. We are sorry that the brethren of the Pennsylvania College thought it best to go out into the cold, and hope they will reconsider the matter, and come along with us, for we “will do them good.” The organization of this Society we regard as the most important step taken by the profession for many years.

# THE DENTAL REGISTER.

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MAY, 1867.

[No. 5.]

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## Original Communications.



### FUNCTION.

BY W. H. ATKINSON, M. D., D. D. S.

FUNCTION is the *work* of body, therefore the body to which it belongs, must first be defined before we can make intelligible the particularity of the work or Function we propose to explain :

The body is the machine through which are elaborated those movements denominated Function by the power that sets up and continues the motion or motions which constitute Function.

So crude are all our apprehensions of biological] processes, that close definition, under present classifications of ideas, language and beings, is next to an impossibility. And yet we see clearly enough, that every body capable of Function must have being ; which opens the question of How bodies become or are constituted individualities ?

As our ideas dominate all effort at thought, in whatever direction of our mental labor, it behooves us to look well to these, as we admit them to inweave themselves into our mentality, or we shall be without means of a clear admeasurement,

by which to compare the unknown with the known, and accurately define the stages of apprehension of truism on the one hand, and dogmatism on the other, which are the extremes of mental propositions. The first announcement of any proposition must assume the aspect of dogmatism, where it remains until proved a verity; then it at once takes its only other normal status, among proved aphorism, which thereby becomes to all who are familiar therewith, simply a truism. To the novice, therefore, all is dogmatic in first actual pronouncement, no less than to open vision (perception) "matter of course."—(truism.)

Function, as usually defined, is an act so complex as to defy distinct definition, short of much preparation of classification, and arrangement of limitations, as to what constitutes its character.

Were we to pursue the subject in exhaustive analysis, so far as now possible to us, we would be compelled to consider it as a whole, as well as parts, whose joint agreements or disagreements constitute the normal and abnormal display of the complex activities involved in that which we denominate general Function.

This analysis leads us, not to the absolute, but to the attained limit of our understanding of what constitutes general and special Function.

The body as a whole may be regarded as a Sea, exactly analagous to the ocean, which is made up of its Northern and Southern, Eastern and Western members, with seas, bays, necks, estuaries, shoals and margins, without which in due relations to the great ocean bed, air, and other surroundings, there could be no *tides* constituting the general Function of ocean.

Tide is perceptible to all observers, in all bodies of salt water, but some dispute would arise were we to assert that it was present in *all* bodies of waters, with the variation of degree only.

In like manner do the superficiais, deny function to all bodies less than or more ambiguous than the recognized

divisions of organs constituting systems of organs, such as bones, muscles, vessels, glands nerves, &c., &c.; failing to perceive that each of these has also its primates by whose presence alone it elaborates the Function proper to each.

Thus, the question is narrowed down to the seen and the *unseen* limits of movements, rather than, as it should be, extended beyond these mere effects of that which is Function proper; which resolves itself really into the implicit obedience of a less to a greater force; quantity and quality being amplifications and tempic and spacie transpositions and aspects of the one great principle of life which produces and presides over all possibility of Function, mechanical, chemical and vital!

These three aspects of Motion or Function are involved in every movement, occult or open, simple or complicate, throughout the domain of organized being.

Hence when we say a certain movement is chemical, electric or other modification of currental expression of life, it is known that our meaning is that the motion is principally displayed in the aspect most apparent to the observer: one referring the action to the department with which he is most familiar, while another refers it to his accustomed interpretation.

We may have tolerably correct apprehension of our solar system, as a whole, and yet be very little acquainted with that of the planets constituting it.

And were there not a unitary law of Function, which existed in and governed all bodies, great or small, it might be well regarded as irrelevant to speak of the Function of Suns, and systems of planets in this place with hope of a patient hearing. But since spectral analysis has brought us into tangible contact with (and proved the presence of the predominant metals that constitute,) the far off stars, to the crudest apprehension, we are encouraged to give free rein to our ardent desire to know the *certainty*, that "all things differ but in degree," and that "each Function," (when understood)



"becomes the key to every other Function of every possible body." After our most extended and most minute survey of bodies in action, what has presented itself as the type of all Functional activity, as displayed in every body without a single exception? Answer.—That which is usually called "*breathing*" is this example of "unitary Function."

This is plain to all who are willing to take the pains to observe the essential movements of cells, tissues, organs and systems; mineral, vegetable or animal, throughout the entire range of these bodies, complex and simple.

If then inspiration (diastole), placement (digestion), and expiration (systole), be the generic acts constituting all of Function that is apparent to external observation, is it not conclusive that supply and waste, health and disease, are dependent upon the degree and manner of the performance of this triune role, the basis of Function everywhere!

That which is necessary to maintain a body in fit condition to perform its Functions, must be received from without in combination with much that is not only not needed, but incompatible to the well being of the body to be sustained by the nutrient elements sought in food. This involves separation, and election to appropriation or rejection of that which helps on the one hand, or hurts on the other.

It is this mysterious election and repulsion, which constitutes the basis of organic movement or Function, which, when we shall have comprehended, we shall be able to accommodate ourselves to this law of being, and thus inherit a perfectly blissful state of existence, that shall continue so long as the supply of the constituents of our being are within reach of appropriation!

This happy consummation is foreshadowed in the universal dread of death, and desire to live perpetually in some cognizable state of conscious existence, by all forms of individual being within our power of perception. If the Function of desire springs from *sense of need* spontaneously reaching out for something to satisfy, may we not as positively

gather from the exercise of this universal passion to live, the proof that it will be gratified somewhere and sometime; as certainly as that the perfection of the organism, from which springs hunger, thirst and sexual passion, is the specific end for which this correlation of organs was called into being!

The first two of these have especial reference to the individual, so that it may become supplied with the necessary constituents of its own body expressly to enable it to store, after full self-satisfaction, an excess of the elements of being, for the purposes of multiplication, when the favoring conditions may contribute to this end of individual existence.

All that is necessary to prove the foregoing assertions, as to the end of life, is to take a survey of two groups of any species of domestic animals, the one nearly starved, and the other fed to repletion; or to compare the wild animals that live in a climate of unvarying temperatures, in which a constantly full supply of food is at hand, breeding at all seasons without reference to the time of year, with the same species of animals, whose habit of indulgence in the reproductive instinct is governed by seasons of abundance of food, and the multiplicity or scarcity of the same varieties and species with whom to associate.

The ill fed have no desire, because they have a minus instead of a plus quantity of sun and earth presence stored within their proper bodies; while the well fed are in a furor of excitement, the moment they come within the sphere of influence of those having the opposite kind of vital endowment or presence, expressly that each may give to the other, that of which it has to spare, and thus equilibriize its own personality, by fulfillment of the highest planetary act, in introducing a new planet of the exact equation of endowments of its parent stocks.

All bodies in a state of diastole, induce currental movements toward their centers, from the most unpronounced and

finest, to the most differenced and the coarsest examples of individual existences.

Thus we must accept the reciprocity existing among all bodies, whether it be pleasant to us or not, in the predominant stage of our development in which we are so prone to say *the sentiency* resides.

The fact is, the "me" resides in the whole organism, as is proved by the cognition of pain and pleasure in the remotest parts, even more keenly than in the brain itself, the boasted "especial seat" of *consciousness*:—

All well endowed beings must have association, whether that be what we call congruous or incongruous, depends upon the proximity of like or unlike bodies, with whom to intermarry, as instanced throughout civilized and savage life, among men no less than by the oft observed examples of the so called unnatural attachments among domestic beasts and birds.

Even Crusoe must talk to and associate with his goats, the rocks, the surf, and the inconstant wind in the absence of the *genus homo*. Association, consists in spiritual, mental and bodily nearness. Each of these three states or spheres has its specific predominant method and character of acting and being acted upon. We have been so long accustomed to say that associations were good or bad in character, that we have practically ignored the ONE government whose sway *can* be only good, by confining our observations to relational conditions, which induced us to say that association was good for one and bad for the other, in accordance with the view we took of the importance of the bodies in association.

If we have injurious spiritual association, "exorcism" is the cure; if mental darkness or defections afflict us, "education" is the cure; and if incompatible or poisonous contacts (association) occur in our food, "purgation" is the means to restore the lost balance, so necessary to the enjoy-

ment of our birthright, to be in the blissfull exercise of every function of our complex existence.

The origin of bodies is traceable to unseen currents, within an amorphous plastic mass.

These currental lines have been denominated the movements of light, heat and electricity. All these must be in predominant proportion above their manifestations elsewhere, to enable us to perceive them.

It has been said that we cannot cognize either of these agents, and that we measure their presence and operation by their effects on perceptible bodies. This is no anomaly in nature; for in the order of things, we know and measure the character and condition of all things alone, by a process called comparison. Thus, all our advances are but successful provings by comparison of the unknown to the known propositions, that have found lodgement within our mental receptacles.

The unitary source of these primal currents of force or power, has been proved to be the Sun, from whence they emanate, and toward which they tend in ultimate expression of movement, in completing not only this circuit, but all the Functions of separation and combination of all bodies in diastole and systole, as parts and as a whole. If then that which we denominate the suns ray be the embodiment of creative energy in direct and recurrent or deflected course for earth and every organism thereon: is not the Function of light sufficient to attract and retain our attention long enough to see that light is life to every creature capable of storing it for use in its proper body?

The ocean has been instanced as the great *Uterus*, which is in a state of *diastole* or inspiration of light, over that half of the globe which is constantly bathed in the sun presence, and *systole* or expiration on the opposite or dark side, thus establishing the *breathing*, or Function proper of the planet.

All terrestrial Function then, must be a due admixture of sun and earth processes, which are divisible into all possibili-



ty of phase of Function, from simple passivity of chaotic mass, to every variation of motion, segregate or aggregate, be it in mineral, vegetable or animal, in simplest or most complex correlation and culture.

Concurrent currental dominion obtains throughout every possibility of natural body, just as concurrent jurisdiction of municipal law holds the rein of government in communities of civilized men. They work together to the same end, viz.: the well-being of the individuals over whom they are exerted, no less than the perpetuity of the larger bodies they compose.

Hence, all the organs of the system under this dominion of supply, are bound by a tether of sympathy commensurate with the importance of each, to the whole and to each other, rendering health only predicable upon the exact balance of Function in each and in all.

This currental dominion in living bodies has its analogue in municipal communities in a force as intangible, and yet so potent as to be, like it, irresistible, which force is known by the name of "public opinion." This owes its power to concurrent consent of the mass of mind in the community to act together, without question of the propriety of their so acting. So soon as they hesitate, the charm is broken, and the public furor ends.

The Function of digestion, as a whole, as it occurs in terrestrial bodies, may be said to be the killing, complete and proper solving, and admixture in chaotic mass of the various foods upon which the particular body in which it occurs subsists. This is the prehension and due preparation of food by the body appropriating it.

But the act of appropriation (nutrition), depends upon the freedom of the body within its own especial atmosphere, from which it imbibes not only the food it seizes therein, but also the attenuated "sun presence," without which no act can take place. There are two aspects in which this is true, viz.: in *entire beings*, and in the constituent *cells* of which tissues



and organs are composed; but it is true of organs only in a subordinate and modified sense.

In the entire being the cuticular and lung surfaces, are the points of *immediate* entrance of "sun presence," while cells are *mediately* supplied with the same, from the "mucoid sea," in which they are constantly bathed.

The absorption into cells of "infusorial mass," "granular mass," "living matter," "blood," "plasm," or "nutrient pabulum,"—these being the various names by which the prepared food is known—takes place at the point where it becomes completed, and ready for systemic use; whether that be in the alimentary tracts, vascular tracts or neural tracts, or in the extravascular sea of the juices out of which the cells are supplied with nutrient pabulum. Thus connective-cells become links in the chain of transmission of life-presence (sun presence) from the juices (in which it is stored), to the muscular fibrillæ for the purposes of muscular movements. In proof of which let me state that connective or areolar tissue constitutes the lines of limit to all primal bodies, whether they be cells of any variety or ultimate muscle fibrillæ, or disk, in which is elaborated and expressed the primal act of muscular Function.

If, then, digestion be a Function so subtle, it is evident, to be complete, each step or stage, in every locality must be fully and freely performed, to produce a blood stream, pure in character to sustain the body in health.

These steps or stages of preparation of blood from food are difficult of delineation, but may be said to occur in normal activity, distinctly pronounced, in the *mouth, stomach, duodenum, and intestines*; less distinctly seen in *veins*, in *absorbents* and in the *juices* of the flesh, or great "*sea of mucous mass*," and finally in the individual *cells*.

As before asserted, each body must be free to enable it to perform its specific Function. Now, that which constitutes this special freedom of bodies, is also the bond by which each is limited within a specific sphere of being and action, so as

to afford an atmosphere not only to whole bodies, but also to the primates (cells), which constitutes them. Now, this inter-dependent bond of *service* and *freedom*, as a whole, is the complete expression of healthy or normal Function, while any excess of individual freedom, or any demand of excess of service from individuals, inaugurates unhealthy, or abnormal exercise of Function, which is the inception of disease.

These, then, are the principles with which we must become acquainted, before we can have adequate conception of what constitutes "Pathology," or that which belongs to Surgery, which is one of the many means to which medical men resort, to remove pathological manifestations from the bodies in which we see them displayed.

The details of an intelligent "Surgery," are as various as the functional deflections that necessitate their adoption. Hence, he who has the conception of that which constitutes normal Function, will be capable to detect abnormal activity, no less than foresee the course of procedure requisite to remove the latter, and re-establish the former. The more complete our knowledge of principles, the more beneficent and certain will our practices be.



## A GROWL FROM AN IGNORANT MAN AGAINST SOME SCIENTIFIC TECHNICALITIES.

Read before the American Microscopical Society of New York, March 23d, 1867.

BY T. D'OR'EMIEULX.

It is a fact much to be regretted, that, in almost every department of science, the same want of precision and explicitness should occasionally be met with in many of the technicalities made use of by scientific men. It is no less to be regretted that these same learned gentlemen should deem it both de-

corous and necessary, to overload their vocabulary with such an innumerable quantity of these same technicalities, when the plain mother tongue would answer just as well. Since the day when that incongruous apposition of words, "POLARIZATION OF LIGHT," was agreed upon to designate that brilliant phenomenon, so gorgeously displayed by the microscope, to our present day, there seems to have been wilful and premeditated endeavor to shut up science within the walls of an impregnable fastness, guarded by those untamed and untamable Greek monsters, ready to devour any timid intellect attempting to pass the threshold of the sacred inclosure.

Nor is our favorite pursuit free, by any means, from the aforesaid reproach. Indeed, I think it is, more than any other branch of learning, liable to the most serious charges in that respect. What, for instance, does the word "Infusoria" mean? Does it convey to the mind the remotest idea of what it is intended to represent? Is it sufficient to say that the name assigned originally to those minute organisms, which mysteriously enough spring up in any vegetable infusion, has been preserved and extended to other organisms by routine, though these latter may be as remote from the former as they possibly can be? Genera present here and there analogous difficulties. For instance, shall we call this valve a gyrosigma, or more simply a plurosigma, or again still more simply, a navicula? But when we consider species, the confusion becomes still greater.

The qualifying adjective changes according to every man's affections, preferences, self-conceit or convenience. The Latinized name of a learned Professor is affixed to a certain subject by one, discarded and frowned down by another, who replaces it by his own name, or by some descriptive Greek combination. In the meantime the outside student, striving, sweating, struggling and wading through this confusion, is left in an inextricable muddle, from which he emerges at last more befogged, and more ignorant than ever.

This is certainly an evil which requires correction at the

hands of those, in whose power it is to give tone and direction to scientific pursuits. Is not science sufficiently arduous to acquire, without making it next to inaccessible to the outside student, by unnecessary, injudicious and especially un-descriptive technicalities.

But returning to the microscope, let us take its optical nomenclature, and see how far we can boast of sufficient clearness and precision in the choice of terms. Are we very sure, for instance, that we all understand what is meant by these fractions of the inch, used to indicate the magnifying power of objectives! When we speak of a  $\frac{1}{4}$  inch glass, do we intend any well understood degree of amplification? No indeed. Well then, the inference is that the expression implies the working distance from the bottom glass of the front combination of the objective, to the object under observation when perfectly defined. We are all aware that it does not. What does it mean then? It means what you all know, namely, that if a single lens were made the object glass of a compound microscope, (by the way they tried the name of Engiscope for the compound microscope; but it would not take,) and it were required to obtain the same amplification as that shown by a  $\frac{1}{4}$  inch achromatic objective, it would be necessary that that single lens be of a  $\frac{1}{4}$  inch focus, to produce the same power. Well, if this is not a far fetched, round-about-turn to mislead most effectually, the unsophisticated student, I do not know what is.

The amplifying power of a glass expressed in diameters, taking for a standard, the eye piece A, would have been too clear and too perspicuous, it would never have done, and accordingly, was discarded; and this is not all, not only does the present appellation mislead, at first, as to the working distance of a glass, but it conveys no distinct idea of its capacities.

It is a well known fact, that no two objectives of a given denomination have identically the same amplifying power, even from the same maker. The consequence is that the



optician, in delivering an object glass, labeled on its box 1-5, is only bound to give you a good working glass, fulfilling certain conditions of penetration and definition, but without any reference to its amplifying qualities. On the contrary, were the objectives named from their amplifying power, expressed in diameters, every purchaser of any object glass would at once know what he has a right to expect.

Let us take another instance of unsettled confusion. Are all opticians, and all microscopists, well agreed on the real meaning of the words "penetrating power?" I doubt it. Does it mean as Dr. Goring has it? "The work performed by the objective, owing to its angular aperture, in other terms, owing to its capacity to admit the greatest possible amount of light, transmitted by the object under observation"? Or should it assume the meaning assigned to it by Carpenter, who eschewing entirely the idea of angular aperture, as connected with the penetration, defines the latter, "the power of an objective glass to show, with an almost equal degree of distinctness, that part of an object which from its arrangement on the slide, or from its difference of thickness in its various parts, is in those parts out of focus"? *Ad huc sub iudice lis est.* The question is not altogether decided; in the meantime, we, outsiders, are waiting in the cold till the friends of science come to our rescue and settle, beyond question or cavil, which is which.

It is high time in these days of popularization of science, that all discrepancies, misnomers, incommensurable polysyllables to express the simplest every day things, should be done away with, wherever a plain English word is available, and certainly it should be so in those publications intended for the general reader. Of course, technicalities, incomprehensible to the uninitiated, cannot, in many cases, be dispensed with, but let them in all instances be, as far as practicable, confined to the text-books and to the lecture room. Let scientific men not write, especially in reviews and quarterlies, only for their craft; let them make them-



selves comprehensible to all, let them remember that there is a large number of unsophisticated readers, who thirst for knowledge, and who will bless their efforts if they will only condescend to speak in the simple, plain mother tongue, whichever it may be.

The days when science, in the laboratory of the alchemist of old, wrapped itself up in a black cossack, constellated with frightful scarlet hieroglyphics, to impose upon the "*profanum vulgus*" are gone by. It may be well for the chestnut to be wrapped up, in its thorny and prickly envelope, to protect its growing kernel from the thievish paw and ravenous tooth of the squirrel, and of all that tribe of "rodentia," (a pretty word, by the by, used instead of the very plain English expression "gnawing tribe.") But the kernel of science needs no such protection. Science must inhabit a palace of the purest crystal, with a thousand gates; it must be seen from every point, be accessible to all, from every side, it must radiate from within, in every direction. Let us have science made inviting, attractive and fascinating to all. Dressed as it is in its useless technicalities, its indefinite misnomers, its undescriptive appellations, it becomes simply, to say the least of it, absolutely discouraging for those inquisitive minds which deprived of an early scientific training, wish at some later period in life, to bestow their study on some of the wonders that it has pleased the Creator of the universe, to scatter so lavishly before our eyes.

## Proceedings of Societies.

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### EXTRACTS FROM DISCUSSIONS OF THE MISSISSIPPI VALLEY ASSOCIATION OF DENTAL SURGEONS.

BY ITS OWN REPORTER.

#### MECHANICAL DENTISTRY.

Dr. Shadoan said with regard to impressions, he remembered seeing it stated a good while ago, that you might smoke a plaster impression with any resinous substance—make it black with smoke.

A few months ago he concluded to try gas, which answered the purpose quite well. A coal oil lamp or candle would do as well. It left no spaces or interstices, and could easily be separated in a few minutes. It was nothing new, but he had forgotten it.

Dr. C. M. Kelsey knew there was danger of varnish or oil getting into the interstices, and it was a question in his mind if the amount of soot that might be deposited would not make this mode objectionable.

Dr. Shadoan inquired if any one had hardened casts in water. He had seen plaster casts treated thus. Just as soon as the plaster was set sufficiently, it was plunged into water, and let remain two or three days, when it came out very hard indeed.

Dr. Berry simply desires to ask a question. In grinding teeth up he found it difficult sometimes to make a close, nice joint. He had seen some in the faculty room of the college that had such nice joints. He would like to know how they were ground, and if it can be done on an ordinary grinder?

The specimens referred to were exhibited to the association.  
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tion, and Dr. S. S. White, of Philadelphia, remarked that they were some that had been ground up by a young man in his employ, who has been a regular mechanical Dentist. It required nothing more than care with a good corundum wheel.

It might be proper to state, since they had been kind enough to ask about them, that he did not bring them to exhibit them before this body. They were among some that were prepared for the Paris exhibition, but were not the best he had, and he brought them along to show some friends in Chicago. He did not intend to intrude them on this society at all.

#### NEW APPLIANCES.

**AUTOMATIC PLUGGER**—exhibited and described.

This instrument was exhibited a year ago. It acts more directly upon the system than any other automatic plugger. The strength of the blow may be regulated by a contrivance at the top.

If the screw is put down it gives a harder blow, and by raising it the strength of the blow is diminished.

It rotates so as to give any position the operator wishes in filling teeth.

**GAS GENERATOR**—exhibited and described by Dr. Ulrey, who said that it would melt lead in three-quarters of a minute. The air contained in the vessel would last half a day, would take about a half gallon benzine, worth 15 cents to last a day in the use of it. Had used it for twelve months and found it the best thing for vulcanizing he ever used. The heat could be raised to  $280^{\circ}$  in from five to seven minutes.

Gold could be melted over the fire, water boiled, and meat roasted or boiled as well as over any fire.

The tube or pipe could be put on whenever needed, and used for soldering purposes. For silversmiths and jewelers it is as good a thing for soldering as to be found anywhere.

The force was produced by compressed atmosphere, the

atmosphere was compressed to four or five times less than its original bulk, by a few strokes of the force pump attached. Is entirely free from smoke for any length of time. With coal oil as generally used there was more or less smoke. The fire is easily regulated, if the thermometer indicated that the heat was too great.

There was no danger of explosion, had tried it in every way he could think of. His was not as good as the one on exhibition, but was one of the first made.

The cheapness was what he looked at; the price being but \$10. They are made of various sizes and shapes to suit the fancy of different persons. They were originated and are manufactured by Mr. John S. Hall, 61 Milton street, Cincinnati.

ETHER SPRAY PRODUCER, exhibited and described by Mr. Hall, who said that the instrument had only been gotten up on yesterday by a gentleman, at his suggestion; and because so hurriedly made was a crude affair to what it might have been, had there been more time for its construction.

The maker proposed to make them of any size or shape desired. The price would be from \$8 to \$10. They were much more convenient than the india rubber bag.

The operation of the machine was fully shown, the Doctor throwing a fine stream of spray from it to any distance or part of the room he desired.

THE COMBINED LIP AND CHEEK HOLDER, was next exhibited and described by Dr. C. Bradley, of Dayton. The manner in which this appliance is used was shown by using the president, Dr. Goddard, as a patient. The belt which comprised a portion of the invention, was first adjusted so as to raise the upper lip of the subject, giving the operator a fair chance at the upper teeth, using the small plugger with the right hand, and the mallet with the left hand.

A small flat silver hook was then attached to the belt, and hooked in the side of the mouth, and the belt drawn around the side of the patient's face and back of the head, over the



patient's shoulder; the end of the belt in each instance being held by the patient's own hand. A small napkin folded up was placed on the side of the cheek near the hook, which answered the purpose of a fulcrum. In this way the cheek was drawn away from the side teeth. Another portion of the appliance consisted of a little silver attachment, called the "extension" which by being fastened to the end of the hook extended back inside of the mouth, and by the use of a small folded napkin being placed under it, prevented the flow of saliva in the mouth.

The exhibitor remarked that this appliance was gotten up to dispense with an assistant; it left both hands of the operator free: he would not have an assistant; could use this to much better advantage than an assistant; he knew just where to strike, how hard to strike and all about it. The habit of using the mallet in the left hand was very easily acquired, much easier than would be generally supposed. He would supply them at \$15 each. As the metal portions were made of pure silver, he did not derive much profit from their manufacture.

A vote of thanks was tendered Dr. Bradley for his invention, and the manner in which he explained its use.

Dr. C. W. Spalding remarked, that the exhibition of this invention was worth all the discussions and exhibitions he had seen for years.

Dr. Geo. Watt said, he could bear testimony to the value of the instrument, having seen it tested a few times; and it made him almost sick that he did not have it years ago to enjoy, as he did not fill teeth now.

A PISTON PLUGGER was exhibited by Dr. G. W. Keely, quite inferior to the improved ones made now, and was somewhat out of order, so that he could not show the manner in which it worked as he would like. It was invented by Dr. Poor, of Dubuque, Iowa. He first saw it used in the hands of Dr. Scroggs, of Galena, who was generally acknowledged as a fine operator. When he first showed the way in



which it was used, remarked Dr. Keely, "I was never more captivated than with it, and felt there was more brain in it than any thing the profession had in the way of pluggers. By means of a small spiral screw inside, the force of the blow was given while the point of the instrument against the tooth remains stationary.

Dr. H. A. Smith, had used it some, and thought, no doubt with use, a person could acquire the facility to use it very well. He found some difficulty, however, in using it, losing control of the plugger on raising the piston to strike a blow.

The exhibitor thought there was no difficulty in regard to controlling the plugger, one could easily strike a light or heavy blow as he wished.

Dr. Scroggs had told him he would quit filling teeth if it was not for that instrument. Some one thought the sound it made was objectionable. Dr. Keely thought this could easily be remedied by having it strike against a little washer made of leather and nicely fitted in to deaden the sound.

Dr. Watt was much pleased with the instrument in some respects, but objected to it on the ground of its striking what might be called a dead blow. The Dr. gave two or three illustrations to show the difference between a dead blow and what might be termed a live blow. It was much easier to drive a nail in a springing weatherboard with a small tack hammer than with a heavy hammer.

He objected to using a heavy mallet from this same principle. In proportion as we deaden the stroke we increase in the same proportion the pressure on the periosteum.

The insertion of leather in the mallet to deaden the sound which some of his brethren had suggested, and the use of a heavier mallet to produce the required force, was unphilosophical. If two balls of equal weight, one of marble the other of rubber, were dropped on a marble floor from the same height, the marble ball though much the smaller, would produce the greatest effect on the point struck and rebound more instantaneously, because it struck a *live* blow; so, if a

pane of glass were suspended by a string and you were to strike it with your fist, or throw a stone against it, it would be dashed to pieces; but fire a pistol ball through it and it makes a clean nice hole. Here is a *live* force, a condensed force. This is just what we want in condensing the gold. It is not a bit of difference if the mallet does make a noise; the patient will think something is wrong if it does not. And it is in fact a guide to the operator and assistant; they will know whether the right stroke is made or not. If then we want this live stroke instead of the heavy stroke as suggested, we must use the light mallet and make quick, free strokes. A light mallet with long handle and quick stroke, is the one that will give the most force on the surface of the gold, and the least concussion to the periosteum.

DENTAL SPECIALTIES — THEIR ADVANTAGES AND DIS-  
ADVANTAGES.

Dr. Watt supposed the question was whether there was any thing gained by sub-dividing Dental practice; whether or not, our profession would be elevated by further sub-division. We have some men who have turned almost their exclusive attention to mechanical Dentistry; such men generally excel in mechanical Dentistry the practitioner who practices the whole range of Dentistry. There are others who fill teeth and do nothing else, and are more likely to excel in this than others who put three-fourths of their time in the laboratory, and who fill teeth only when they can not help it. Others devote their time to diseases—the constitution of the patient likely to result in disease, etc.

We find these sub-divisions—persons devoting themselves to these specialties—in such cities as Cincinnati, New York and Chicago. My opinion is that it will become the practice in almost every city, for Dentists to practice in a special department to the exclusion of all other departments. He had been driven in that direction himself, because he had become physically disabled, and could not practice the whole range

of the profession. He had paid more attention to diagnosis and what might be called the surgery of the mouth and jaws, and though not in a condition for active mental effort, yet from the mere fact of his having turned his attention in that direction he had made considerable progress.

Every Journal, medical or Dental that he found, he examined to find everything that would throw light in that direction, and in conversation he had obtained much information in this way, gathering up every thing that had a bearing on the specialty he endeavored to practice. This turning his attention in one direction enabled him to take hold of the subject in a way he never could before, when his attention was divided over the whole range of subjects belonging to the profession.

Again, in regard to the disadvantages; he knew very well, if he continued in his present course, he would fall behind in mechanical Dentistry, and operative Dentistry proper. But the question was, not what was good for one man, but for the *profession*.

He was opposed to the old theory that if a person had a genius in one direction, it must be corrected by exercising his faculties in that for which he had but little taste. If every man were an Alexander Selkirk, it might be best to do this; but man was made for society. If he fell behind in operative or mechanical Dentistry what matter, provided his brethren pushed on these departments to a greater degree, just as he should the department in which he was trying to labor.

He thought by each one taking that department for which he was best fitted by taste or talent, or surrounding circumstances, the whole profession would make greater progress.

He confessed that he was in favor of Dental Specialties in the profession, theoretically and practically.

Dr. J. B. Beauman, of Columbus, O.—For the last two

years he has been confined almost to the department of Operative Dentistry.

The longer he turned his attention in that direction, the more he saw the necessity of specialties in practice. He was well satisfied in his own mind, that the time would come when the profession must be divided up into specialties.

The great difficulty that stood in the way with many, was "will I be enabled to maintain myself, and make a living if I direct my attention to one branch of the trade? Will I succeed"? That is the great trouble. But he held that it is the duty of every one in the profession, who sees the subject in this light to advocate it until the profession is brought up to a standard, where we can go to work in earnest in specialties. Dr. White would tell them that he can carry on his business with greater success, by having his hands employed, one in one particular branch of his business, and another in another branch, than if all worked promiscuously, and that each one, by being confined to a particular branch, became much more proficient in that, than if he worked in all the different branches of the business. The same was true in any large manufactory, each one could perform his part of the work better than any other man in the manufactory.

It seemed clear to his mind that such a course was demanded in the profession of Dentistry, and not only this, but he held that community demands it at our hands. He was well convinced that in pursuing but one branch, they would make far greater progress, than when pursuing all combined. If a man turns his attention to one line of business, he would be much surer of success.

Dr. C. W. Spalding, of St. Louis.—Said he supposed no man would practice the art of Dentistry many years, especially if he attempted to practice both the mechanical and operative departments, without finding it a great inconvenience to attempt to practice both these departments conjointly.

Certainly, the mechanical department in itself, presented a



wide range—an endless number and variety in the cases presented—and was certainly a sufficient field for all the genius and mechanical ability which any one man may be supposed to possess. It has been his opinion for years, that this necessity for a division of the departments of Dentistry in practice, would force itself on the profession.

He had altogether abandoned mechanical Dentistry, because he had a taste for operative Dentistry. By degrees he had lessened his practice in mechanical Dentistry, until it amounted to nothing. He believed that this sub-division of the profession would be the inevitable course in large cities. The sooner it was brought about the better, he thought, for the profession. The operator would acquire greater skill, by having his attention turned to that one department.

The executive ability or skill—the manipulative ability that was indispensable, would be destroyed by turning his attention to some other occupation. The more practice he had in this branch, of course the greater ease and facility he would acquire in doing this kind of work, and with more ease to the patient.

He thought it did not need much discussion. It must seem better, he thought, to almost every one. He had certainly been long convinced of it, and thought it the duty of every one to urge it to be put in practice, and try to make it general.

Dr. J. Taft.—Said he supposed it would be a better state of affairs if it would be adopted at once, but the question arises, “is it practicable?” Many men in the profession are compelled under present circumstances to practice everything. But while that might be the case under some circumstances, he thought it need not be the case to as great an extent as was supposed.

He was well convinced that very much more could be done than is done in this way, if the matter could be urged and pressed upon the attention of the profession.

He thought in every city, in every village or town, where



two or more Dentists practice, there could be an arrangement of that kind made, and that they should seek to make such arrangements. In every town, as it now is, where there are three or four Dentists they are driving ahead at all they can lay hands on, in all departments of the profession—operative Dentistry, mechanical Dentistry, the treatment of diseases—complicated and simple—treating irregularities, and taking hold of everything within reach. If, where there are two, or three, or four Dentists in the same vicinity, they would make an arrangement for each one to pursue that for which he has the most aptitude—the greatest liking, then all would be harmonious. But where men endeavor to do everything, there is a competition that is many times injurious, and operates against the profession, whereas, if, for example, in a village where there are but two Dentists, they would make this division, one taking one branch and the other another branch, and each co-operate with the other, and help build each other up, they would help create in community, that respect and regard which ought to be manifested towards them, and towards the profession in which they are engaged. But instead of this, there is now in many places, a mean contemptible competition that produces almost—yes, sometimes quite—disgust in public opinion. By the kind of arrangement referred to, all this could be cleared away. This ungenerous competition would be destroyed, and each one would occupy a far better position, by taking each a specialty, which they would develop to a much higher state of perfection. There is no doubt if they would thus work together, and be harmonious in their aims and objects, they would create in community a sentiment—a feeling of respect—which never existed before.

This plan is feasible if men will but take hold of it, where there are but two or three Dentists in a place.

It is working well in cities, naturally working itself out. What he urged, in smaller places where it does not seem to separate itself thus, was an effort to make that separation, so

that all would go on harmoniously instead of this kind of competition, so common as to be almost universal, tending to drag the whole matter down and make the profession an object of contempt in the minds of the people. It would be an important matter if no more than this was accomplished. These things had forced themselves on his mind for a long time.

True, there were noble exceptions, but in many places it seemed that Dentists took pride in condemning the practice of each other all they could.

The question was asked Dr. Taft, how many sub-divisions he would make?

The Dr. replied that it would depend upon circumstances. In this city and other large cities, some turned their whole attention to mechanical Dentistry, making artificial teeth, &c. Others did nothing but fill teeth.

As an illustration, in their office, one did not do much else than attend to the department of mechanical Dentistry, another, nothing scarcely but fill teeth, and for sometime he had treated no cases of irregularity, but had turned that over to another person in the office, who had done it far better than he could or ever did, with all the different branches mixed up together. His operations were now confined to filling; he had centered down to the one work.

Where there were but two Dentists in a place, they could not carry their sub-division as far as in cities. One might perhaps treat diseases and fill teeth, and the other attend to the mechanical department, and by helping build up a business for each other, would raise the profession in the estimation of the people around about them.

Dr. Talbert remarked, that it was a well-known fact, that men acquired skill and excellence in a separate department, that they never could acquire if they practiced all. He had investigated the subject, and made the discovery that these are the men that make those improvements which are of im-

portance to the public. We never saw a man yet that practiced a specialty, who was not a liberal one. He might cite, as evidence of the fact, that those improvements are most readily given to the public by such men.

Dr. Berry, said, he agreed with nearly all the remarks made on the subject, but there were difficulties in little towns, where there were but two practitioners. So far as the good of the profession was concerned, he had no doubt that the course proposed was better, than for one person to practice in all departments.

He was very much pleased at Dr. Watt having turned his attention to the special department he was pursuing. He had turned over to the Dr. some bad cases for treatment of the mouth, that he himself did not wish to bother with. There is but little chance to give proper attention to such cases, in an office where one has forty other things to attend to. Perhaps some one is waiting to have something done in the department of operative or mechanical Dentistry, and the practice may not justify the keeping of an assistant at twenty dollars per week—a thousand and forty dollars per year. It would be better to let such cases slide once in a while. There are, however, so many cases where we are forced into doing that which we would prefer others to do.

Dr. Taft.—In the arrangement he had spoken of, he would have it understood, that it was simply making a trade, simply turning over work from one to the other. The man to whom you turned over work in his line, compensating you by turning over to you work in your department. Another thing, as each one would be confined to one thing, that part would be much better attended to, than when you attempted two or three things at a time.

Thus, by pursuing this course, by study, and practice, and experiment, you will improve so, that your operations will be brought to a greater degree of perfection, and se-

cure you more patronage in your special department, which in addition to the work turned over to you, by the person with whom you have this arrangement, it seems to me, will more than compensate you for cutting off one department of the business.

Dr. Berry wished some plan could be devised to enlighten the people to attend to their teeth earlier, and to impress them with the value of filling them, instead of letting them decay.

Dr. B. F. Rosson, said in his town his neighbor Dentist gave exhibitions with laughing gas in connection with his other business, and enquired if he should encourage him in this undertaking. (Laughter.)

Dr. J. B. Beauman, asked how many would go to the general practitioner of medicine, to get a difficult surgical operation performed. It struck him that very few would do so, because surgery and the general practice of medicine have been divided, and it is naturally expected that the Surgeon becomes more expert in that branch, than the general practitioner. This is supposed because he makes it a specialty, and any one that wants anything in that specialty goes to one who makes it such. There is hardly a man in the house, if he wants his teeth filled, that would go to the operator who tended to all parts of the profession—mechanical, operative and the entire work of the Dentist, but would seek a man who made that a specialty, because they expected to get a far better operation performed by such a one. He wants his teeth filled well and saved. And it will be the same way with persons in a community; they will learn where to go as soon as the profession is divided, and specialties made of it. Many thoughts might be suggested on the subject, but it seemed apparent to him that every one must see at a glance, the necessity of the profession pursuing specialties.

Dr. C. M. Kelsey, thought in cities like this it was quite practicable, and he was in favor of the plan where it would



work. Where specialties were practiced, persons certainly became more efficient and did better work, but it was certainly impracticable in country towns. Take a town of the size of his, where the population did not exceed five thousand. If you would try to make an arrangement of this kind, you would see how it would turn out. There would be a disagreement as to who should take the operative, and who the mechanical department, &c. Besides there are families who have put themselves under our care, and expect us to do all their work for them, whether mechanical or operative, and if you would turn them over to another, to get a part of the work done, they would think it was something not very profitable to you, and you wanted to get rid of it, and some would take offense, and you would thereby lose their patronage altogether. Though where practicable, such practice was best, but he thought it would not give satisfaction in smaller towns.

Dr. Taft said Dr. Kelsey seemed to look on this matter as wholly impracticable in towns. Perhaps it would be so in many places at present. Persons must not think that it can be accomplished right at once, but if everybody would go to work, and endeavor to bring it about, it could be done after a while. There were difficulties connected with everything in life. It would not do to make mountains of difficulties that were but mole-hills. If we would just begin to climb them, we would surmount them much easier than we expected.

Dr. Rosson, thought we would find, if we sent a turkey, a crow would be sent us in return.

Dr. Berry believed there were many such men where the arrangement would be perfectly impracticable.

Dr. Watt, thought we should not be discouraged at some little difficulties. As he looked around over the assembly there were some bachelors to be seen. He did not know how to account for the fact they were not married. He supposed some were afraid to go to see the girl they liked, for fear



some other fellow might go to see her too. Some were afraid to adopt special things, for fear his friend might want that specialty too. For his part, if he wanted a girl he would not stay away because some other fellow wanted her. He would urge the adoption of specialties wherever practicable.

He knew there would be difficulties in some places, and in some places they could not be introduced. Marriage was the natural state of mankind, but there had always been some bachelors. So, though specialties was the natural tendency of the profession it would not be carried out in all places.

If, for instance, Mount Vernon, Dr. Kelsey's town, thought he was better calculated to work in the department of operative Dentistry, than any other department, they would go to him when wanting anything in that department, and another person intending to practice the same specialty would hardly locate there, but soon mechanical work would run in and require the services of one in that direction. It might take some time to bring this about, but there would naturally be this tendency.

Dr. G. W. Keely, said his mind was impressed with the importance of specialties.

In the winter of 1842-3, which he spent in New Orleans, Dr. Palmer, of that city, made a specialty of filling teeth. In conversation with prominent men, physicians, lawyers, &c., he found that a great majority went to Dr. Palmer to get their work done, because he did nothing else but fill teeth. Dr. Keely felt safe in saying if he could get the prices operative Dentists get in cities, he could make more money in the place he lived, where there are but three thousand inhabitants, than he did now, and could do better work for his patients. He had recently filled a bicuspid tooth, which occupied an hour and a half to perform the work. The patient counted the taps of the mallet given—he did not know whether such a thing had ever been done before—

and he was surprised at the large number. He had given 2782 taps of the mallet in filling the tooth. He was more than ever convinced of the value of the mallet. He did not pretend to say good filling could not be done without the mallet. Dr. M. Rogers, years ago, had put in fillings by hand pressure, that had done well; he knew some men had a better sleight of hand in doing it thus, than others. He was accused of having mallet on the brain, but he thought when one got sufficient practice with the mallet, to learn its importance, they would have mallet on the brain too, and his patients would have it also. (Responses of "that's so.")

He was convinced of the necessity of making certain parts of the work a specialty. Suppose a person desiring to have an operation performed on an eye, should come here to Cincinnati for the purpose, he would certainly go to some one who makes the treatment of the eye a specialty.

#### DISCUSSION ON OPERATIVE DENTISTRY.

Dr. Berry mentioned a case of a patient with the second molar nerve destroyed; treated, filled with amalgam, three years elapsed before pain. In removing the filling, found living nerve in the anterior fang; the other canal was open and clear; no indication of suppuration.

Dr. Taft.—In reference to the treatment of exposed pulps, think that in many instances it is proper and even best, to let the pulp tissue remain in the canals of the roots, after that portion in the chamber, in the crown of the tooth, has been removed. That at the point of excision cicatrization may be induced, and when this can be accomplished, and there are existing no unfavorable conditions—neuralgic, irritable or inflammatory, it is best to permit the pulp-tissue to remain in the roots; protecting them at their exposed points, and filling the vacated chamber and the decayed cavity. Dr. Garkey, of Memphis, Tenn., has employed this practice for a considerable length of time, and with very marked success. If the exposed points are well protected from variations of

temperature, and there is no change of the material that is placed in contact with them, and there neither should be a vacuum nor impingement, and all will be well.

No plan can be devised that will operate alike well in all cases. This is only sought by the superficial men in the profession who are too indolent to devote time or effort to the development of a special treatment, for special cases. For intervening substance make use of Hill's stopping. No space should be left, and yet pressure on the pulp must be avoided.

Dr. Berry asked whether the treatment of filling the fang with cotton and creosote, does not answer the requirements?

Dr. Taft thinks this sufficient as it is only necessary to prevent the admission of moisture to the canal.

Dr. Spalding—the essential point is to close the foramin. The infiltration of moisture through the wall is an unsettled point. He did not consider it essential, that the cotton should remain longer than a few moments, to form carbolat of albumen, as the chemical effect is produced in a few moments. Always endeavor to render the whole fang impervious to any fluid. He had not lost more than two per cent. of these cases. He objected to cotton, because of quacks.

Dr. Taft always uses small pludgets of cotton with creosote. Uses cotton because not so liable to extend through the foramin.

Dr. Berry would not reject the use of cotton because of quacks, but would practice any method adapted to the case in hand.

Dr. Morgan spoke in reference to the use of carbolic acid as a preservative against decomposition. A subject injected, will be preserved for an indefinite length of time.

[The foregoing on operative Dentistry is from notes taken by the Secretary.]

Dr. C. M. Kelsey remarked that he practiced filling the cavities with cotton, saturated with creosote; perhaps it

was as good as any other filling ; thought it less liable to pass through the foramin. He wished to say a word in reference to what some gentleman said last year with regard to the practice of extracting the six year old molars. The gentleman advocated the propriety of extracting it, when but slightly decayed. This was contrary to his practice and teaching ; he endeavored to save it as long as practicable, and instructed students and patients when they first decay to have them filled. He thought there was an error in extracting these teeth too soon, he would let them remain as long as there was any attachment, unless other teeth took a wrong direction. The reason he preferred not to extract the temporary teeth, was that the child at that age—nine, or ten, or twelve years—was tender and it was a pretty severe operation, and would cause the child to be forever set against going to a Dentist. He would have particular care to save these molar teeth. If the mode of others was different, he could not help it, and supposed he might be considered an old fogy, but he really considered the practice reprehensible and never adopted it.

Dr. Shadoan, remarked that he agreed in a great measure with what had been said.

The first thing that attracted his attention, about which he desired to speak, was a remark of Dr. Taft, with regard to destroying the pulp. He had quoted Dr. Garkey, but there was one thing he failed to mention ; that is in destroying the pulp with anything, he leaves it in just long enough to devitalize or destroy a part of it ; then make an application of cotton or lint, saturated with creosote, to form a cicatrix or heal the nerve. If let remain two, three or four days, we will find a little dark speck on the saturated lint, opposite the roots, showing that the healing process had commenced.

In regard to filling with any material after the nerve was removed, he differed with Dr. Spalding, who did not want any cotton left in the cavity at all.

Dr. Shadoan did not know that he ever failed. His method



was to place a small portion of cotton, lint, or a few fibers of flax, saturated with creosote. Flax thread or silk thread would do—he preferred flax—and forced it up as far as he could into the fang.

He next spoke of the danger—in case of a slight change of the drill—of the instrument running through into the periosteum of the tooth, and gave some instances where this had occurred. He said it could be determined just how far to force the cotton or gold. It could be determined by measurement. For instance, take the instrument, an excavator, and when it gets through, let it catch over the wall, then measure; then change and feel the other way. Practice in one or two cases was generally sufficient to learn how to measure the depth. The instrument must be allowed to go as far as it would, making allowance for thickness; should not press the instrument too hard lest it be forced through.

He never filled more than the fangs of the teeth with os-artificial; filled the cavity with os-artificial, which was better because it forms a more solid base, and filled the remainder with gold.

One reason for using os-artificial was, that it was a non-conductor, when a chill only goes to the os-artificial, and is not conveyed into the tooth. We often find that a change of temperature produces periostitis; and many teeth are lost when they are well filled.

A remark or two in reference to the six year old molar teeth; he considered these of as much importance as any in the mouth; in his opinion, they were made of better material than any other in the mouth. If we have found them decaying, it is not owing to faulty material, but the mode of living.

He thought they were formed of better material, and were placed in the most important part of the mouth, and performed the most important office of any other, in preserving



at that particular time, the symmetry of the jaws and face, and should therefore be retained on that account.

Dr. Talbert would like to say that he preserves so far as he can, the deciduous teeth; thinks it an important point, in order to preserve the arch of the mouth. He had even sent parents with children home, whom they had brought to him, to have their teeth extracted. He advised them to leave them in the mouth; sometimes he found that they had gone to other Dentists who had them taken out. Some of his patients—children who had been brought to him by their mothers, he had sent home two or three times, advising them to leave them in as long as possible. He would have it distinctly understood, when he found the first molar teeth in the mouth well developed, and having abundance of room, he would not take them out, but when crowded and having two or three cavities he would extract. Dr. Talbert then gave the history of some cases that he had treated, as illustrations of the success he had obtained by pursuing this course.

Dr. Morgan thought there was a large number of cases in which it was impracticable to save the first molars, especially among the children of the more wealthy, whose habits were more luxurious. It was difficult to lay down a rule to which there was not a number of exceptions—all general rules have. It was a nice question to determine; of course it was modified by surrounding circumstances. It seemed we could come to no general rule. If those teeth were beyond the reach of our skill to save, until the patient approaches or arrives at maturity, he had believed it best to extract them at an early day. But the period when to extract was difficult to determine. As a general rule, he would say retain them as long as they produced no pain, or could be used—were serviceable. It was certainly desirable for the child at this age to have their teeth to masticate with, while the formative processes were going on. There was no period when it was more necessary to have good grinding apparatus, than just at this age—from seven to fifteen.

He considered the first molars the most valuable, except the canine teeth perhaps, in the mouth.

## REMARKS ON DR. SPALDING'S ESSAY.

Dr. S. S. White—It is not without feeling that it looks like presumption in me, that I attempt to say anything after the very able essay that has been read in your hearing. The first thought that I wish to give expression to, is in relation to the culmination of the ideas presented in the Doctor's essay. If the theory be correct in regard to the dentine, it would seem that the remedy should have been found in congealing the parts by rhigoline spray, to prevent that vibratory motion. This has been tested pretty thoroughly in the East, upon those having quite sensitive teeth, without injury to the pulp.

In regard to another matter: I wish to offer some remarks to instruct Dentists how to take care of their health.

I don't speak in public often enough to keep the tether of my thoughts. I will endeavor, however, to make some observations on this subject. Some of my old friends know that some ten years ago, I presented the appearance of a very delicate man, likely to have a short life. That condition opened my eyes more particularly to the laws of health.

It was in studying some of the authors, quoted here to-night, that I was led to pursue the plan I did.

I wish to give you some of my experience, which I hope may be of immediate service to you. We recognize the higher power of nerve force, as the highest we know anything of in our organization—that which enables us to think. I have proven in my own case, the value of the principles stated, having brought myself from that of an emaciated pale faced person, weighing but one hundred and twenty-one pounds, to that of a person weighing one hundred and seventy one pounds, with a full face and florid complexion, in which there is no alcoholic or other stimulant. I accept it as a truth that the most immediate attainable power for the

conversion into red blood globules, and converting it into gray matter, is the direct rays of the sun. I have put it in practice and tested it. We know that it is so in vegetable, flower or fruit growth. The fact that vegetables deprived of light do not develop themselves fully is well known to all. But where they are furnished with abundance of light, but deprived of direct rays of the sun, the vegetation does not develop itself to the same intensity—the higher qualities of the fruit is not developed, although exposed fully to the northern light; they must have the influence of the direct rays of the sun also.

To make this applicable; in looking around on the Dentists here, I find that they partake of the general character of Dentists; whatever their constitution, they are pale, owing to their inactive in-door occupation, keeping themselves shut up six days in the week out of the sun.

If I were their medical adviser, I would advise them to take one or two hours in the middle of the day to expose themselves to the direct rays of the sun.

The habit will be easily acquired, and will become a luxury, even when perspiration is freely developed in the sun, in the hottest days of the year. When in health it is the best way to retain it, and if out of health, the best way to regain it.

I have found when overworked by brain work, as I have sometimes been, that the readiest means to recover my health, was by exposing myself thus to the direct rays of the sun.

When the Doctor spoke of sleep as a means of restoring the gray matter, it reminded me of the fact, that when thus exposed to the direct rays of the sun, I needed but six hours sleep, when I otherwise needed eight hours.

Dr. Warder, who is an experienced horticulturist, in speaking on some of the points introduced by Dr White, said that tropical plants, which of course existed under the immediate or more direct rays of the sun, than we had here,

could be grown by artificial means, as in our green houses, we could raise a sufficient amount of heat, but they never thrived so well or produced the same result as under a vertical sun. He fully believed the Doctor's remarks with regard to health; he did not know about his rosy cheeks, but he had a figure he was not ashamed of; one much superior to the one he carried about with him when he lived in Cincinnati. He had changed his appearance since he had become a Farmer and had left off being a Doctor; he was not shut up as he was then.

It is well known that the fruits well exposed to the light and sun, are universally better developed in size, infinitely better in flavor, and much more highly colored than those that are not thus exposed.

Dr. Talbert wished to add his testimony to the fact, that by reducing the temperature by ether spray, the dentine would have no sensitiveness whatever in it, and one can then work and cut away as he pleases.

Dr. C. M. Kelsey.—There seemed one thing not very clear to his mind, in relation to the dentine. The question in his mind was, what gave the sensibility or sensitiveness to the dentine, if the nerve fibril did not pass into the dentine.

Dr. Spalding—No nerve fibrils had been found in dentine. There had been found what was supposed to be such, but they have not been traced further through than the outer membrane of the soft pulp.

The nerve fibrils have never been traced through that membrane or into it; some have said they did so, but this has never been corroborated by others. They have never been traced into but all terminate underneath it. None have ever been found perforating or passing through, and I cannot imagine how they get into the tubule of the dentine, when they have never been known or seen to pass through. This is a question I am unable to solve, and am forced to the conclusion, that as they have never been found to exist in the dentine,



they do not exist there. The question then is how can we account for the sensibility, without their presence. The theory I have given, satisfactorily accounts for it.

If we touch the finger to any surface, though the nerves do not come immediately in contact with that surface—though there is no contact except of the outer substance—the motion is communicated to the nerves and through them to the brain.

#### DISCUSSION ON THE QUESTION.

*Can anything be accomplished for the arrest of Dental caries, either by general or local treatment, otherwise than by filling?*

Dr. Morgan hoped to hear especially from the faculty on that point.

Dr. Taft supposed the question would refer to both the predisposing and the exciting causes; everything, either of a general or local character.

He supposed all were familiar with the fact, that the more perfect the condition of the patient, in any case, the less liability there was to decay in the teeth, and the less rapid the decay. The question he supposed to be simply this: To know what can be done, so far as predisposing causes exist, to clear them away.

A great deal could be accomplished by thoroughly understanding the patient's condition, by making a thorough diagnosis—to know what are the predisposing causes, and the exciting causes; to find whether it was enfeebled vitality, or whether any special virus, syphilitic or any other poison was present; or the production of any vicious secretions that may facilitate the progress of decay. He supposed that anything that would improve the general health, would be the means of arresting decay.



How much, or in what ways this can be done, of course is for us yet to determine, but facts are cropping out, that should lead us to make inquiries and observations in this respect.

He referred to the case spoken of by Dr. Spalding, in which, by a certain treatment the softening of the teeth was arrested; and referred also to an instance in which the teeth of a lady became very much softened by some disease, in a comparatively short period of time, so that they could be cut away as easily as a piece of wood, but by a certain course of treatment they were hardened or solidified in a short period of time, and made much more dense than before. Things of that kind were occasionally coming to notice, which were very significant, and ought, when they occur, to be traced up fully and investigated, so as to learn all we can about them. Though we may not understand all about them, we should pursue the matter and endeavor to *learn* all possible about them.

He supposed anything that would give increased tone and vigor to the system and improve the health, would of course tend to arrest caries, and anything that will *prevent* decay will tend to *arrest* it during its progress. Many times we find the teeth decaying, and pay but little attention to the condition of the patient or to those things which cause the decay. We fill the cavity and let the case go without any special notice, or without trying to find out what are the causes of decay, or without recommending, or introducing such a course as shall remedy it, or prevent an occurrence of the difficulty again. He thought this a great fault in the profession—they find a cavity in a tooth, clean it out and fill it well and think they have done their duty.

He thought they should try to ascertain whether there were any systemic influences, and what local causes for the decay; to find out if possible what the sources were, from whence they emanated; whether from vicious secretions of the mouth,

or from secretions in the alimentary canal, or from the decomposition of food, or other sources. When we find out the sources or agents that produce the effect, we will best know how to control them. It is not enough, however, that we have ascertained the character of the agent or the source from which it comes, but we should endeavor to find out how best to conquer that enemy. It is not enough to know that an enemy is at such a point, and intrenched so and thus. But in order to attack him successfully, we must know how best to approach him, and how to neutralize the advantages of his position, &c. Just so here, we may have a very good understanding of the agents that produce decay, but we must know what to do to meet the difficulties, and counteract these influences, and how to clear them away or neutralize them. When there is an increased vigor, or the general condition of the patient is improved, there is generally a corresponding arrest of decay, a solidification of the dentine. We should study all the conditions in connection with such cases, and if we study them closely, we will learn much.

It is an important subject, one that should be carefully considered.

In some instances we dress the teeth, file away the decayed portions, thinking to arrest decay, but the decay persists; at other times the teeth without this will be found years afterward to have ceased decaying, and the surface to have become more dense than before—there has been an eburnation of dentine, almost as dense as enamel. The improvement of the general health is one great remedy; care of the teeth themselves—keeping them in the best possible condition, giving them proper exercise, keeping the gums in a healthy condition; the mouth in good state, will tend much, not only to prevent decay, but to arrest it wherever commenced.

Dr. Watling desired to ask a question: The teeth of a patient of his, a lad ten or twelve years of age, just re-

covering from an attack of typhoid fever, were so affected that the enamel was so soft as to easily scrape off. After scraping through the soft enamel to the dentine, it was hard and solid, and the teeth were not sensitive. He would like to know what course to pursue in the case?

Dr. Taft said it was an important case, one that would require a close observation, a thorough diagnosis to ascertain what the cause of the trouble was; whether it originated from systemic causes, or whether by the action of local agents. He supposed it likely resulted from vicious secretions of the mouth.

He would determine, if possible, the nature of the secretions of the mouth, whether acid or not in character, and pursue such a course as would change the secretions by general treatment. It involved the whole subject of systemic treatment. Dentists should understand all this.

So far as local treatment is concerned, he would scrape off the soft enamel down to the dentine, and give it as smooth and solid a surface as possible. Would use as a mouth wash some alkali, prepared chalk, or lime water, also phosphates.

The general treatment must be modified of course by the condition of the patient, would use such medication, or hygienic treatment as to bring about a healthy condition of the patient.

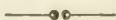
Dr. Watling remarked that the patient had been sick, but that the secretions of the mouth were now in a perfectly healthy condition.

Dr. McCullom believed the case referred to by Dr. Spalding, was caused by an excess of alkali being taken into the system. The appearance of the teeth improved rapidly after eating acid fruits.

Dr. Shadoan, had met with cases, not unfrequently, of children, twelve, fourteen, or sixteen years of age, whose teeth presented a greenish appearance, more especially the front teeth, around the surface next to the gum, the enamel

scales off, &c. What caused it, was an important consideration. It was his opinion, it was produced from the acid secretions in the mouth. Sometimes it extended to the cuspid and bicuspid teeth, but generally only to the incisors. As it is principally on the incisor teeth, he thought it was caused by the vitiated condition, or acid condition of the mucus; that class of people generally sleep with the mouth open, and the mucus accumulates and dries on that part of the mouth.

To correct that, in the first place the acid secretions must be corrected, which may be done as Dr. Taft remarked, by using prepared chalk, lime water, or anything that would change these secretions of the mouth. Then in case the patient sleeps with his mouth open, he would recommend the mouth to be kept closed and get in that way of sleeping. He would also have them wash the teeth well, especially at night before going to bed. This he thought would go far to prevent these difficulties and caries in the teeth. The sooner the soft parts are taken off the teeth the better. These deposits should be removed and the teeth put in better condition, and washed and kept clean, when friction of the lips assist in keeping them clean. This is a matter that is not understood as it should be, but we all ought to understand the nature of the secretions of the mouth and of the system generally, whether they come to the surface or not, and what will change the condition of these secretions.



LOUISVILLE, KY., *March 7th*, 1867.

DEAR REGISTER:—

At the semi-annual meeting of the Central States' Dental Association, last year, discussion turned upon the subject of dentrifices, though not in regular debate. Many of the members having frequently been asked by their patients whether they endorsed the use of "Sozodont?" (that being the most popularly *advertised* preparation for the teeth.)

In order to be able to pronounce intelligently in reference to this matter, it was decided to have "Sozodont" analyzed. I herewith transmit the Chemist's report, together with a *quantity* of soap, obtained from the liquid "Sozodont."

For the benefit of the readers of the REGISTER, you are at liberty to publish the communication.

Yours truly,

J. A. McCLELLAND.

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LOUISVILLE, *Dec. 22d*, 1866.

DR. J. A. McCLELLAND,

*Dear Sir*:—I have made a chemical examination of the "Sozodont," (liquid and powder) which you left with me. I find the liquid contains Alcohol, Water, Soap, Essential Oil, Sugar, and a little extractive matter.

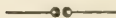
The Powder contains Starch, Gypsum (Plaster of Paris), and Powd. Orris Root.

Yours very Respectfully,

THOS. E. JENKINS, M. D., *Chemist*.



## Editorial.



### DENTAL TEACHING.

The work of properly instructing those who are to assume the duties and responsibilities of the Dentist, is one of no easy accomplishment. The fact that there is as yet no well defined and generally approved curriculum of study, is by no means one of the minor difficulties.

This is due no doubt to some extent to the fact that only a short time has elapsed since an effort was made to methodically and systematically teach the principles upon which the practice of our profession is based ; perhaps, as much has been done as could have been expected in twenty-five years ; this period embraces the beginning of the effort for systematic Dental teaching, and that effort from the very nature of circumstances could not be otherwise than limited, and partial in its results.

There had nothing in the form of a similar work gone before it, to break the path or dispel the darkness that covered the way.

With scarcely anything like a text-book, and no periodical literature, which should serve as free channels for the outflow and the exchange of thought, ideas and practice. With no Associations to encourage and cheer the ongoing in the weary way. Add to this the fact, that at first everything was experimental, no one could have in his mind, definitely what was best, or even what was needed, and this could not be determined, except by experiment wrought out through patient perseverance. And exceedingly fortunate was it for the profession, that in this time of need, it had such men as Hayden and Harris, and others we might name, some of whom are still with us, who labored with an energy, perseverance and efficiency, answerable to the requirements of the time, and for which they should ever be held in grateful remembrance by the profession. While we would not be hero worshipers, let us not manifest base ingratitude by hasty-

ly forgetting, or refusing to honor, the names of those who have been our greatest benefactors, some of whom only ceased to labor when they sank beneath the verge of the grave.

And though the difficulties mentioned above, have been to a large extent removed, there are others still operative. A want of the proper conception of what is necessary, to well prepare the Dentist for his legitimate work, has been, and still is, if not an actual obstacle—a dead weight, that much impedes true progress.

Many in the profession, and the vast majority of those not in the profession, imagine that mechanical tact and skill, and especially if one is much favored by nature—is all that is necessary in the way of endowments and attainments, to constitute a “splendid Dentist.”

The misconception is based upon a want of knowledge and proper consideration. With such false and narrow views, of course very little encouragement will be given to the institutions and persons aiming to give and foster a liberal and properly extended professional education.

But further upon this subject in the next number.



### THE CANINES.

Both the little dogs ours and the *Dental Times*—are doing well. Snarler is still able to give a feeble yelp at regular times; and Nip is the saucy head of a young family of terriers, which start life with this advantage over Snarler, that their genealogy is not “unknown.”



### COHESIVE SHRED GOLD.

INVENTED AND MANUFACTURED BY E. LAMM.

This preparation of gold for filling teeth is very similar to some of the preparations of crystal gold made years ago. When well prepared it has some advantages over any other form of gold, for filling teeth. For instance, in laying a foundation in large cavities, it is preferable to anything else, as by proper manipulation, it takes a firm hold upon the dentine, and will remain firmly in position, and serve as a good attachment for the remaining part of the filling; with it, too, large cavities can be much more

rapidly filled than by foil in the ordinary method of using. Skill and care are necessary in using it. Another advantage claimed for it is that it can be efficiently used when moist, or even under water. We would make the suggestion here, however, that it is not best to make this too prominent, for such things are often taken advantage of, to the great detriment of operations. It is always safer to keep fillings free from moisture while being made, whatever material may be used, and we should feel better pleased by the introduction and adoption of some method of excluding the moisture, rather than to work in it, with any material.

This gold is for sale by S. S. White, and we presume by the Depots generally.



#### DENTAL INSTRUMENTS.

We recently had occasion to look through Dr. S. S. White's large and extensive stock of Dental goods at Philadelphia, and amongst other things that attracted our attention, was the arrangement and classification of excavators and pluggers which he had just completed. It consists in numbering all of any given class of instruments. The excavators, for instance, run from one to sixty, or perhaps more, embracing any shape and size, each having its fixed number. Every one will see at a glance the convenience of such an arrangement. Any one ordering these instruments, and knowing what he wants, can have his demands supplied as well as though he were present.

In the finish of these instruments there is quite an improvement in the bronzing of the handles, making a much neater instrument, besides obviating rust.

We would suggest that the profession aid Dr. White in carrying out his system, by becoming posted in it, and then shaping their orders accordingly. We presume that all Depots obtaining goods of him will adopt the same system. Dr. W. will soon issue the largest and most complete catalogue of dental goods ever published.

# THE DENTAL REGISTER.

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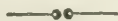
VOL. XXI.]

JUNE, 1867.

[No. 6.]

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## Original Communications.



### DO GUMPLATES INJURE OUR TASTE?

FROM THE "ZAHNARZT," BY A. SEIFFERT.

It is a common and not yet established complaint of those individuals, who use artificial teeth on suction plates, that their taste is more or less injured. If we would prove to them, with the whole physiological literature, that the *tongue* is the only seat for the taste, and if we would prove these different experiments, they would simply reply to us, what we so often hear from intelligent ladies: "*But sir, since I use the artificial set I have no, or very little taste for my aliments; and in order to bring them eatable to the table, I must test them without the artificial teeth.*"

The savant professors do not cook aliments on their writing desks or section tables, and all their arguments are idle against a single fact. An esteemed friend wrote once to me, I shall bring a solution of quinine to the patient's tongue, without letting the tongue touch the palate, and he would experience no taste at all till he closes the mouth, or till he brings his tongue in contact with the quinine. To him I say: "Bring our so generally used composition of morphine, arsenic and creosote *carefully*, without great pressure, on the

tongue, and you will feel a weak chemical action, which is realized by the sensory reflection of the ramus lingualis trigemini, but you will feel nothing of a taste, till the tongue is pressed against the palate." The chemical action is felt on the *mucous membrane of the lip*, as a burning sensation at least, with the same vigor, without the interposition of any gustatory nerve.

If we reduce now the taste, to that which signifies the basis of each sense, viz. : the *feeling*, then we must confess that an organ, whose nerves lie so close together, as is the case with the tongue, can give us better proofs than an organ whose *nerve territory* is more extended. But the *feeling* is produced by a very simple apparatus, which in the organ for taste is only a more complicated repetition. Let us investigate now this question more particularly.

We find in the TASTE CORPUSCLES an elevation of the skin, which includes a cellular organ, containing a neutral fluid, composed of oxygen and hydrogen. In the middle of the organ is that *end of the nerve*, which rises from the respective sensible nerve, and which ramifies with single points, whose end ramifications are not more visible with the microscope. From the inside of the included cellular organ are hanging down fine *lappets* corresponding with the points;



but they do *not touch* the end points of the sensitive nerves. The slightest pressure on the outside skin brings the lappets in contact with the cellular organ, and so causes the sense of taste, since under such circumstances a *circulation of an electric fluid* is created, which is the *taste feeling*. We are now arrived at the simple phenomenon of electro-magnetism.

We have once already remarked, that in the nerve-tubes even of the ax-cylinders, the triangular form of them contains that *vis vitalis*, after which we have been hunting so long, and which exists as the gas of *nitrogen*. After closer investigation, we have found that there are also *round* ax-cylinders. We must, after our physical and chemical ob-



servations conclude, that these *round* ax-cylinders contain principally *carbogen*, which is to be found in the above named *lappets* as the end-points of the *sympathetic nerve*. If by pressure both come in contact, then the conduit is established and indeed a *double* one. Whilst the *direct currents to the brain*, through the telegraph wire of the *sensitive nerve* is produced by our will, an other *indirect current* (earthen current) takes place by the *sympathicus*. The investigations of *Schiff* and *Brown-Sequard* have stated, that the GRAY SUBSTANCE CONDUCTS THE IMPRESSIONS OF THE SENSE, WITHOUT BEING ITSELF SENSITIVE. *Schiff* calls therefore the gray substance the *æstheosodic substance*, and he says, that the common sensations are conducted through that gray substance, but that the feeling of touch is carried to the brain in the *white* substance. But not the gray substance alone, the fibres of the white substance, which penetrate them are also *æstheosodic* (*i.e.* conducting the feeling, without being self-feeling). But we know even those fibres as leaders of the so-called reflex-feelings. By further exploration, why causes act on one nerve differently to what they act on another, we find (after *Setschenow*) the remarkable circumstance, that *chemical* irritations depress, but that *tactile* irritations improve the faculty of reaction of the brain. This must be produced by special actions to the one, and to the other side. We know also, that *that acids produce a contraction, alkalies an expansion*. If we imagine that by contraction of the taste corpuscles containing fluids, produced by a quick imbibition of an outside applied *acid* substance, the same result is gained as if by a mechanical pressure, with the *only* difference that the CONTRACTED LAPPETS are compelled to touch the *sensible nerve-fibres*; and that again externally applied *alkalies* produce an expansion, a stretching out of the SENSIBLE FIBRES, which again create a *feeling*, then we have already *three modifications* of the same feeling, which we are able to discern as feeling of pressure, and feeling of sour and alkalie re-agents. And there is yet a fourth and fifth

impression of feeling, namely, of *warm* and *cold*. This we can easily imagine, is set in motion differently from the above described both kinds, since here none of the two nerve-ends are affected, but a common expansion, and a common contraction is only produced by the influence of the agents.

We have followed so far the straight line, but now let us pass a side-walk, which notwithstanding will lead us to the main street again.

It is a fixed state, that the *normal leading* of the impressions are performed by the longitudinal fibres of the *hint cerebral trunks* (crura cerebri), to-wit.: the trunks from the *same side*; and only when the one side is paralyzed the leading is transported to the *other side*. It is a further fact, that when the half of the medulla is separated diametrically, the skin of the same side below the separated part becomes hyperæsthesied, whilst on the other side a depressed feeling, an *anæsthesia* is caused. From that we conclude that a *provisoric action of other nerve fibres* takes place instead of those that came out of action, and that further a *modified action* arises as soon as the balance of the two halves in one or the other way is injured.

The above bespoken kind of *taste organs* (corpuscles), we find on the tongue as FUNGIFORME PAPILLAS, and when we look closer we find that the points and the sides of the tongue are mostly occupied by them. But here dominates the *nervus lingualis trigemini*, and therefore we are already able to affirm that this nerve represents the *sensitive* nerve of the tongue, which informs our soul of the form, magnitude, gravity, hardness or softness of a substance, and which gives notice of temperature, of sour and alkalic properties, a sharp and scratching taste.

We will notice here a remarkable property of the sensitive nerve. When we put our tongue in warm water of 41-42 R° or in ice, then we lose the property of taste, or this is spoiled for some moments. The importance of this interposed remark is easily to be understood, when we remember

the anæsthesia produced by cold; and therefore the possibility of painless Dental operations is only then of a result, when the refrigerating process penetrates.

Instead of pursuing the taken course, and describing the second kind of skin-nerves, and then comparing the adequate nerves of the tongue with them, we will take the adverse course, and will bring now the second form of papillar nerve-end of the tongue before our knowledge, and then only the equal form of the skin-nerves.

Whilst the first kind rises up in form of *papillæ*, the other kind elevates FILIFORM, but the arrangement of the parts is notwithstanding the same. The filiform kind have also the lappets, in whose centre the *ramifications* of the sensible *fili* are visible with their simple ending points; and we could pass this form if it would not be necessary to know their function. The whole form of them let us suppose, corresponds with the nerves of the hair-follicles of the skin. Should that not be the same for the tongue? Certainly! for, as the whiskers of cats and the tentacles of many insects are their feeling organs, in the same manner accommodate the fili of the tongue the sense for the taste through their sensibility, which no doubt must come out *more subtile*, as in the form of *papillæ*. But they have another purpose. We know by experience, that terrible impressions cause *hair erecting* upon us, and that an excited action of the hair-follicles, which produces the so-called goose-skin, is not only to be felt, but also to be seen. This demonstrates to us, that those filiform elevations are in connection with the *motoric nerve of the tongue*, i. e. with the *nervus sublingualis*.

We have now gone so long around the pap, that it is not hot any more, but easily to be understood; and we turn now to these nerves, to which we attribute the veritable sense of taste, to the *nervi glosso-pharyngei*.

Strange, why the *glosso-pharyngeus* (tongue-throat), why not simply *nervus pharyngeus* (tongue-nerve)? Do you not know, that it ramifies not only in the hind part of the dorsal

tongue, (who is said to possess the finest taste), but also in the soft palatine? This must have its peculiar meaning. And in fact as many authors, that have laid the sense of taste in the tongue, as many have placed it in the palatine, viz.: Biffi, Budge, Klaatsch, Kornfeld, Morganti, I. Muller, Schirmer, Stanius, Stich, Valentin, Veriere, and to make the dozen full, the Author.

We are compelled to take this nerve also like the other two in closer consideration, and especially the peculiar organs in which one part of its fibres determinate—I mean the *papillæ vallatæ*.

The *papillæ vallatæ* are a composition of the above named two forms, but so that the *fungiform papillæ* appear to be larger, and surrounded by a circular wall of *filiform papillæ*. A section of such a *papillæ* would represent as follows:



The wall contains ending fibres of the sublingualis like the filiform papillæ. It incloses a fortification, a reservoir, and with the end-fibres of the motoric sublingualis it is able to change the reservoir into a circular canal, in which the fluid is inclosed. By doing this through pressure comes forth not only an electric current in the ramifications of the glosso-pharyngeus, but also a real battery through the association of the wall-edges, of which the result is *the feeling of taste*.

Therefore we find, that the taste-feeling represents a combination of the irritative and sensible system, whose action is only increased by the peculiar form of the organs, and that also there, where similar nerves *are standing near together*, similar results are gained, and therefore every part of the



tongue, and every part of the *soft and hard palate* must support more or less the taste-feeling.

This can be proved by the following experiment: If you moisten the upper and under lip with saliva, and if you touch one or the other lip with a strong tasting substance, but carefully avoiding the touching of the tongue, then you will feel the oftener you open and close the lips (that is the more the substances are diffused over the nerves) a dull taste of the substance; therefore the lips are also organs for taste.

We draw, in conclusion, your attention to a positive law, in the doctrine of electricity, namely: THE INTENSITY OF FEELING GROWS WITH THE SUM OF THE IN THE SAME TIME EXCITED NERVE-FIBRES, AS THE SINGULAR IMPRESSIONS FOR CONCEPTION APPEAR, SO TO SAY, TO SUM UP. This alone would be enough to shake the opinion, that *artificial plates do not injure the taste*, if not a second law would spring up, which is much stronger yet for injury of the taste.

On the side of the tongue, we have a quantity of galvanic apparatus, which collectively are, what we will call taste; and we have on both sides of the palatine, a quantity of weaker apparatus with similar structure and action, by which the taste is accommodated; but the partial proof of those organs shows us the feeling of taste, but not the taste itself. This is then felt, when the bolus, mixed with the mucus of the sour mucilaginous glandula. and the alkalie pituitary gland, comes in contact with many conductors of the tongue and the palate; fluids are conductors of themselves. When these conducting faculties are interrupted by electro-positive materies, viz.: caoutchouc, the natural taste MUST be spoiled.

We have already stated that a *modified action* takes place, as soon as the equilibrium of the taste-producing nerves is spoiled. *That part of taste*, which the tongue-nerves themselves lose through their weak conducting power, as the



palate is partially covered by the caoutchouc, can not immediately *be entirely* regulated, time only brings in *some degree* compensation, but never as it was before. Do THEREFORE GUM-PLATES INJURE THE TASTE?

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## ABSOLUTELY PURE GOLD FOR FILLING TEETH.

BY G. S. MILLS, D.D.S.

THE Dental profession will bear me out in the assertion, that for the past two years, there has been more said and done to produce a superior quality of gold, for filling teeth, than ever before. Competition is said to be the life of trade. Rivalry for good is commendable in all. Whatever motives have prompted the manufacturers, I leave that aside. Suffice it, we have to-day, a better article in the market by the undertaking. Great effort has been made to suit all parties, and for this reason the beaters of gold have failed to secure the best results. Some desire foil to be very adhesive, others cannot use it if it is; another wishes it entirely non-adhesive, trusting to the welding process to retain the filling, "which I believe to be, in these days of progress, a very old foggy idea;" nevertheless, it is a free country, and I know of no law that prevents a man from spending double the amount of time to accomplish a good result, that is necessary. It is not good for man to be alone, (hence a good mallet, and assistant,) notwithstanding some Dentists agree to the contrary.

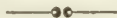
As I have before stated, I think all kinds of materials now in use for filling teeth are sometimes practical. I have, in the "*Cosmos*" of last year, advocated the use of crystal or sponge gold quite strongly, and I still hold to the statements in the main. Two years' experience in its use has been worth something to me. I would not use it now under some circumstances, when I once would. By making a choice of

operations and circumstances, I would use it, and with as good results, as with any preparation of gold extant. One condition under which I would not use it: when an unhealthy saliva exists, (thick, ropy and vitiated,) or any of the front teeth, another is against a thin crumbling enamel of a tooth, when the pulp has long remained dead under a filling. In such cases I think foil far superior. What is needed is ability to judge discreetly and wisely. I think, however, I have made more good operations in the same length of time with sponge than I have ever with foil.

I have been sorely troubled in the use of foil from the fact that there has been such a want of uniformity. The great mass of adhesive foils fail in this one point, want of softness after being annealed by the Dentists. Some lots of different makers would be all that could be desired, and another would be directly the opposite. Some that would be soft, would have no tenacity. I am told by different makers, they have had all sorts of suggestions made to them by Dentists, and I think they have tried so hard to follow them, they are often led into a muddle of ideas. It has been my conviction since participating in a discussion on adhesive gold at the Connecticut River Valley Association, held at Springfield, Mass., in Oct., 1865, that the cause of this want of softness, after annealing is simply from the presence of a foreign matter, and they are more and more confirmed, partly on account of the remarks and experience of Dr. Wetherbee, of Boston, published in the REGISTER in the December number, of 1866, and from my own experience, since that time. After reading the article by Dr. Wetherbee, I called the attention of three makers of foil to the ideas given. Mr. E. Kearsing, of Brooklyn, set himself to work and has prepared a foil that he declares to be as absolutely pure as can be, and gives me his reasons for knowing, which, to me, are so convincing, I can but acknowledge the truth of his statement. The foil he has furnished, is so far excellent, and says he can produce it every time, (the every time is what we want). I am ac-

quainted with one other Dentist who is using some of the same and expresses himself delighted. It is as soft, tough, and adhesive after annealing, as can be desired. If he continues to give me such an article as he has, I shall use more foil than I have been accustomed to do in the last two years.

P. S.—I have of late used nearly four boxes of Lamm's gold, and from my experience with it, I can say, with a good deal of confidence, I believe it will come to be a very valuable auxiliary in filling teeth, aside from its use in connection with the fluids of the mouth.



## PRESIDENT'S ADDRESS TO THE MISSISSIPPI VALLEY ASSOCIATION, MARCH 6, 1867.

BY G. W. KEELY, D.D.S.

GENTLEMEN :—That Creator, to whom we should, all, with "equal reverence, bow," has permitted us to meet again, to enjoy another season of social intercourse, and to contribute our mite to advance the great interest of our chosen specialty.

This Association, now the oldest Dental Society in existence, was organized in this city, in the Lecture Room of the Medical College of Ohio, on the 13th of August, 1844. Dr. James Taylor announced the object of the meeting, when Dr. Joseph Taylor, of Maysville, Ky., was called to the Chair, and Dr. W. B. Ross, of Newport, Ky., was appointed Secretary. A Constitution and By-Laws were adopted and Officers elected for the ensuing year.

There were present on this occasion, some twenty-eight gentlemen, some of whom are still earnest and active working members, who scarcely ever fail to be present at our annual meetings.

You will pardon me, gentlemen, if I mention the names of

a few of the latter : Dr. James Taylor, Drs. Ullery, Rogers, Allen, Berry, Wheeler, and Goddard.

Others, who were present on this interesting occasion, whom we delight to honor, and remember as among the bright lights of our profession, have, in the course of nature, been gathered to their final homes—Ross, Hunt, Hullihen, and others—have gone to that “undiscovered country, from whose bourne no traveler returns.” And thus we are reminded that, we two, are but mortal, that here we have no “continuing city,” and that the tears of affection, which tremble upon the tombs of these departed brothers, will surely soon be transferred to ours.

At this, our Twenty-Third Annual Meeting, I venture the assertion, that none of us can fully appreciate the importance of this organization. Here we discuss the different subjects, most intimately connected with the interests of our profession, and by a free interchange of ideas, on the various modes of practice, we are mutually benefited, none feeling so selfish as to keep within himself any important improvement he has been fortunate enough to make, during the past year. But it is his pride to make it known for the common good.

A Committee report annually on all important improvements, and mechanical appliances, which alone will richly compensate any one who has at heart the interest of his patients or the advancement of his profession.

I appeal to you, gentlemen, who have been attending these meetings for the past twenty-three years, if you can afford to stay away, when it is possible to be present. If you will not be the loser by so doing.

How often we hear it said, “The more I attend Dental Societies, the more I wish to.” Why? Simply because we are improved, our hearts grow larger, our affections are drawn out, and we are made to love our specialty, and our professional brethren more than ever before. It is said, that in “union there is strength.” You, gentlemen, will realize this

fact, on your return to your homes, feeling stronger, and more competent than ever before, to battle with the difficulties you meet almost daily in your practice.

This being a fact (acknowledged by all society men,) is it not our duty to put forth every honorable effort, to induce our professional brethern to become members of some Dental Society.

For ten long years, I urged upon a friend, the importance of becoming a member of this Society. His frequent *excuse* was so common, I need hardly mention it. "Press of business precluded the possibility of his absence from his office, even for two or three days."

I persevered, and finally came out conqueror. After his return from the first meeting, to his much loved office, I was the recipient of a long and interesting letter, from which I was convinced that my persistent efforts were fully appreciated. He said, "I never entertained the remotest idea, that it was possible for any one to learn so much in so short a time."

Our Society is not sectional, for her affectionate arms extend to almost every State in the Union, and even to other countries. Her children are numbered by the hundred, and many of them are among the brightest ornaments of our profession.

Gentlemen, of the Mississippi Valley Dental Association, we need not urge upon you, on this occasion, the importance of a thorough Dental education. This magnificent Temple, "The Ohio College of Dental Surgery," in which we meet to-day—the only one in the world, erected and owned by a Dental Association, for the sole purpose of Dental education—speaks to us in tones not to be misunderstood. You who are familiar with the course of study pursued in this Institution, can form some idea in regard to what it is doing to elevate our profession.

Other Dental Colleges are doing a noble work. At Balti-



more, Philadelphia, New York and St. Louis, the good work goes bravely on.

We should all be impressed with the idea of looking much to individual effort, in elevating our chosen profession. We need have little hope of being protected by the laws of the land—efforts in this direction have signally failed in the Medical Profession, and may in ours.

Let it be the resolve of every Dentist, not to take a student unless he is possessed of a good English education, and one whom he would feel proud to introduce to his family and friends, with a pupilage, not less than two years, and requiring him to attend a full course of Lectures in some Dental College, and in whose *integrity* he has the most *implicit confidence*.

Gentlemen, let us insist upon a thorough education, making the standard as high as possible, and thus make the line of separation between the truly educated Dentist, and the pretender, so distinct, that the blind may know how to choose between them. And the "dear people" too, are to be educated up to the point of appreciating good operations, and to know whom to trust.

No intelligent patient will pass from the hands of a good operator to an empiric without discovering the fraud. But should he unfortunately call upon the latter named, first, he will surely soon realize, when perhaps too late, that he has been victimized.

But I have detained you too long, let our efforts in the future be more earnest, than ever before, for the elevation of our specialty.

In conclusion, gentlemen, let us hope that the day is not far distant, when the uneducated Dentist, and the one who fails to take an active interest in Dental Associations, will utterly fail in commanding intelligent patients.

## ROOT OF TOOTH IN THE ANTRUM OF HIGH-MORE.

BY GAM'L JACKSON.

TOMES, in his Dental Surgery, speaks of an accident which may happen in extracting teeth, and relates a case which Dr. Cattlin had. It was my misfortune to add another to the list, under the following circumstances :

In July last a lady called at my office to have the left superior first molar extracted. The crown had decayed away leaving the roots but slightly connected. I removed one of the buccal roots with the forceps, but failing with this instrument with both the other roots, I resorted to the straight elevator. The remaining buccal root was thus readily removed, but in attempting to dislodge the palatine root my first effort resulted in pushing it into the antrum.

Not having suitable instruments at hand for retrieving the accident, I appointed the next morning for the operation. My patient kept her engagement, but would neither be narcotized nor submit without. I dismissed her with instructions to return upon the appearance of certain symptoms. These set in at the expiration of twenty days, and my patient returned with a fetid purulent discharge from the left nostril, and was quite willing that I should operate. I enlarged the socket through which the root entered with a four-line trocar, but exhausted my skill, and with ever variety of probe, in trying to find the root, I could find nothing but the tubers corresponding to the root of the adjacent teeth. Topid water was thrown through the opening and the probes tried again, but with no better success.

The case was now postponed with the prophetic remark from the attending physician, who chloroformed the patient, that "the root would probably fall through the opening in a short time."

The Doctor's prophecy came to pass. The lady was din-

ing the next day on potatoes, and a portion crowded past the lip of a rubber plate, which partly covered the opening. An effort to draw out the potatoe with the tongue, brought the root rattling against the plate!

The root was three-eighths of an inch long and just the right shape to favor its passage into the antrum; slightly enlarged at the point and regularly tapered to the other extremity. Had it not been discharged within a few days it was my intention to remove the second bicuspid, and after enlarging its socket with a smaller trocar than the one used in the first instance, to cut out the intervening bone. The opening thus made would have enabled me to find the root with certainty. Before cutting out the bone between the two perforations, however, a strong current of water thrown through the socket of the bicuspid would probably have washed the root out through the first opening. I have always considered elevators cruel and inefficient instruments, and have never had the least success with any but the straight one, described on page 126 of Robinson, on Extracting Teeth, and called the "Gouge." This may sometimes be used to advantage in removing the roots of the six front teeth of the upper jaw. Badly decayed roots of this class may be thus removed with perhaps less pain and less mutilation of the surrounding tissues than would attend the use of the bone forceps—a result particularly desirable where artificial teeth are to be made, and plain teeth are indicated. But my general practice is to use Parmley's bone forceps for all kinds of roots, whether their crowns have been broken off or lost by decay. I consider these instruments the most indispensable of any in my extracting case.



### CRACKING OF RUBBER PLATES.

BY A. D. HOLLROOK, WAUKESHA, WIS.

IN the January number of the DENTAL REGISTER, is an article on the above subject.

The writer, Dr. Jackson, has given *his remedy*, but of the *cause*, not a word.

We have had some little experience in this direction, having had two plates returned broken, from front, about one-half way back the length of the plate, in a straight line.

On examination, we soon discovered the cause, in the first returned, which applies with equal force to the second, we found that the front blocks in the upper plate were set too close to the lower teeth, striking the canine teeth on the bevel, thus spreading the plate at every occlusion of the jaw.

I see no necessity of multiplying words, only to say, "an ounce of prevention is better than a pound of cure;" and I *know* that one minute's time in applying the eye teeth to an emery wheel would have saved the extra labor of making over those plates.

In all mechanical operations, each and every part must be made to fit. A deviation of one-sixteenth of an inch in the matching of cogwheels will cause continual jaring and eventual failure. So with artificial teeth. Let not the front blocks be too closely on the lower teeth, neither must any of the teeth strike on the sliding scale, else failure will be the inevitable result. If the work does not fail immediately, it will be a source of continual annoyance in throwing off the plate so long as the Dentist fails to observe this one thing.

The breakage of plates depends upon two things:

1st.—Their faulty construction and imperfect adaptation; and, 2d.—The hard usage of the wearer.

The first to be obviated by far more care of the Dentist in making the denture, than is usually bestowed.

Time, care and skill to all necessary extent, should be employed in the construction of anything so intimately connected with the welfare and comfort of our patients as a set of teeth.

Hard usage by the patients, whether by carelessness, or extra use, will be somewhat modified, by imbuing their minds with true notions of the real value of a set of teeth.

ED.

## Proceedings of Societies.

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### EXTRACT FROM PROCEEDINGS OF THE MISSISSIPPI VALLEY DENTAL ASSOCIATION.

THOUGH the substantial and practical details of science and art should ever take the lead in meetings of the profession, yet members of the profession are men—hence they have *feelings* and affections, as well as reasoning faculties. When a meeting so results as to bless both the emotional and intellectual faculties of the members, it is a good meeting. Not many societies have been permitted to enjoy so pleasant an incident as that recorded below. Years ago a veteran member of the Association retired from practice, and, therefore, from active membership. Having resumed practice, of course he resumed his place in the Association, and having tried him before, the old society knows exactly what to do with him. We couldn't think of waiting on the tedious round of rotation, before putting him in his proper place. Many of us don't know how to preside, and we know it; he does know how, and we know that too. And to see him in the chair as fresh and buoyant—yes, even as *boy*-ant as when there before, made us all feel *y*ounger, and more ready to gird on the armor of professional science, to battle in the cause of truth and progress.

Still gently deal with him, O time.

W.

VALEDICTORY BY PRESIDENT G. W. KEELY.

DR. KEELY, on leaving the chair, said: "In retiring from this office to which I was elected by you, it only remains for me to thank you for your kind consideration, and the assistance you have rendered me. I now have the pleasure to introduce to you, one who is an old wheel-horse in the



profession, who retired from the profession several years ago, and whom we all heartily welcome back.”

The retiring President then introduced Dr. W. H. GODDARD, who was received with hearty applause. On taking the chair Dr. Goddard said :

“Gentlemen of the Mississippi Valley Dental Association : this honor was not only unexpected by me, but had I known your intention to confer it, I should have absented myself from here this afternoon. I had made arrangements to go away at 4 o'clock, and had my baggage started on the way, but being here and learning your wishes, I am, as I have always endeavored to be, ready to do that which my professional brethren desire. No matter how hard or severe the work, or how incompetent I may be, I know I will have your assistance. I thank you, brethren, for the honor conferred. I have had this office once before. There are those here who will remember twelve or fourteen years ago, I was called to this high position. I endeavored to fill it to the best of my ability then, and will endeavor to do so now.

Having filled the office once, I thought there was no danger of being called on again, till you had gone all through the ranks ; for I think there are those here who are much more competent to fill this chair—not fill the *chair*—I can do that, I have corpulency enough for that—but that can perform the duties pertaining to this office better than I can. I hope, however, to receive your kind indulgence, your advice and assistance.”

[The Doctor on taking his seat was again greeted with hearty applause.]

The subject of receiving members being under consideration.

Dr. Berry said, I do not take the ground, that a candidate for membership here, or in any other society, ought to be rejected because he is not good looking. But I do insist that candidates for membership should undergo a thorough

examination. With one of the founders of this Association, I think we have been too lax generally in this matter. I think the time has come when we ought to be more rigid.

It will not do to admit members here with the qualifications we did twenty years ago.

The standard must be elevated and advanced as the profession advances. We must require a fair degree of excellence in the qualifications of a candidate, who now applies for membership.

I may be censured for some of my ideas on this subject, but I can stand it.



## EXTRACTS FROM DISCUSSIONS OF THE FIRST MEETING OF THE OHIO STATE DENTAL SOCIETY.

### DENTAL EDUCATION.

Dr. Taft—This subject of Dental education is an important field in the view which is presented—the relationship of teacher and pupil. In whatever aspect you view it, whether it is the education of the man in the office or in the school, or wherever you may place him with a view of educating him for this purpose—it is an important thing. It is important because of its own real value, because of the intrinsic value in the thing itself; and then again, it is important because there has been so much false practice in regard to it, because there has been in the profession so many mistakes.

It is resolved or regarded by most of our Associations, that in a short period a man cannot be prepared to practice all the departments of Dentistry, and hence they have passed resolutions like this; that we may not take a student for less than two years, some make it three years, others again pass resolutions that they will not take a student for a less pupilage than two years and the College instruction in addition. But then all over the country you

will find men who will take young students ; and for a compensation—for a poor, pitiful, miserable one hundred dollars—will take a young man in the office, keep him for a few months, and turn him out with a recommendation to the public—the recommendation that he is capable of practicing. This is all wrong, and it is doing injustice to the man himself. The preceptor, in the first place is doing himself injustice, is doing injustice to the man whom he thus takes, is doing injustice to his profession, and to the people at large. He is doing injustice to all parties ; it is criminal so far as the people are concerned, and so far as the young man himself is concerned. Well, then what should be the standard ? Can we fix any standard ? It is true, that some young men will become better prepared in one year than others would in five, but then perhaps it is necessary to fix some limit with regard to the time, and the kind of study, and the things to be studied, in order to make it definite—in order to fix in the minds of all, that it is quite a task to make these attainments.

Now it is true, that in ten years many persons would not become prepared—after ten years thorough drilling, many persons would not be fit to practice Dentistry, in any of its departments, either in a manipulative or medical point of view. Others in a comparatively short period will be prepared, owing to their adaptation. Then, again, some will become capacitated in one particular—in the manipulative department—and be sadly deficient for a long time in other things, not being able to recognize and proceed for a long time in the treatment of various diseases ; another will be able to diagnose with ease, while others again will be exceedingly bungling and clumsy in the command of their hands in manipulating and yet in a very little time, almost by a kind of intuition, will be able to look through and recognize diseased conditions.

All these things ought to be taken into account ; and more than this, any one taking a young man for a stu-

dent, ought to understand his capacity. He ought, in the first place, to understand his adaptability to this profession, whether he has the natural disposition and inclination. Then, again, whether he has the elementary and early training proper to enable him to apply himself closely to study; this is a very important matter. And it is a matter of congratulation that in our profession, a movement is being made in this direction. A few years ago, ignorant men, comparatively sought to enter our profession. Now they are more and more highly educated, in literature and general science. Every year more and more, literary men seek to enter our profession. This is exceedingly encouraging. I remember years ago, that there were scarcely half a dozen students in a class of eighteen or twenty, who made any considerable pretensions to literary attainments. Now, by far, the greater proportion are what we would call good scholars. In one recent class of between forty and fifty, in the Ohio Dental College, I think over one-half were classical scholars; a far greater proportion than ever before. And you can scarcely imagine the difference between assisting or teaching such a class, and endeavoring to teach a class the greater proportion of whose members are illiterate. There is all the difference in the world, when you present an idea to a man who is able to understand and appreciate it, you see his countenance lighten up, it enthuses you, and enables him to go on and get facts that he otherwise could not; while if you have a class of illiterate men before you, and you give a most clear illustration—as clear as possible—it falls fruitless. I simply refer to this as a matter that is exceedingly gratifying.

Compare the discussions in the Associations now with those of a few years ago, and I think you will find a very great difference. This of course, I know, depends somewhat on the fact—that men of our profession have been associated together.



It then shows an improvement in this matter, and the members of the profession, who take students, are looking well to this thing and receiving men as students, whom they will be proud to introduce to their professional brethren, whom they will be proud to introduce in the future to other scientific men.

This is a matter altogether in the hands of the members, profession, and they are responsible for the deficiencies, and the delinquencies that exist in the profession in this particular. It has been the custom heretofore that men would receive into their office, anybody who has one hundred dollars, and wish to stay two or three months, and work for them. Now, this is all wrong. The great and leading idea should be to make the right kind of a professional man of him. This much then in regard to the duty of the preceptor and the student. He should pursue such a course in his selection of students as will bring about the best results—as will secure in the ranks of the profession, a class of men of whom he will be proud hereafter as professional brethren and as scientific and literary men.

Now in reference to private instruction; many Dentists will say to the student: "Come into my office and I will teach you all you can get anywhere—and that in a short time; it is not necessary for you to know all these absurd things and studies in order to be a good Dentist; I can teach you everything that is necessary to make a good operator as well as anybody." That is not true. There is not a man living who can instruct the Dental student, as he should be taught in all the various branches pertaining to our profession. No man who will claim to be a first-class mechanical Dentist, and a first-class operative Dentist, and much less will you find, the man who is thoroughly competent to teach all these branches. And supposing he was competent to do so; how much time would it require? far more than any one could afford. Hence I regard it as the duty of the profession, to sustain the institutions we



have, letting every student avail himself of all the means of proper professional instruction within his reach. I fully appreciate the advantages of private Dental pupilage. I think it an important thing if there is a good perceptor, one who will instill into the pupil proper principles; but there are a great many in the profession, and I am sorry to say it—who are not qualified for preceptors; and yet almost every one thinks himself well qualified to teach.

The institutions for instructing our young men, should be well sustained by the profession. They should be made just as good as possible. It is often said they are not what they ought to be. But why are they not? Because they are not receiving the countenance of all the men in the profession, who ought to sustain them. If the Colleges are not what they ought to be, the responsibility rests upon those who fail to sustain them; they have not been sustained by the profession as they ought to have been. If there are incompetent men in them, why are they there? Why do you suffer them to be there? Put them out and have better men, if there are any competent men in existence to teach. If there are incompetent men there, it is the fault of the profession. If the regulations and method of training is not what it should be, the fault rests on the profession.

But sustain these institutions, they have accomplished a work that cannot in any other wise be accomplished. Make them just as perfect as it is possible. As you sustain them so will their work be thoroughly accomplished; so will it result in advantage to all the profession. This and the next generation receive good from it—because, as the incoming members of the profession become enlightened, the light they get and the influence they have, is thrown out and exerted on every member of the profession.

Then sustain your institutions. The advantages are manifested in many respects. See what has been accomplished through them. Cut off from the profession every good influence that has ever gone out from the Dental Colleges of

the United States, and where is your profession? What is it worth? I do not say there are not good men who have not been in the Colleges; take away all the influences that has ever emanated from the Schools and Colleges, and where is your professional literature? The great majority of the prominent men of the profession in the country, have grown up, in a great degree, under the influence of these institutions, and I do not believe there is a man anywhere who may claim to have grown up wholly independent of these things.

It is then the duty of every member of the profession, to sustain our Colleges, and if they are not what they ought to be, make them better; I know there are many slurs thrown out against the Colleges. But Why? Is it against an institution, that a thick-headed student comes in occasionally, and never amounts to anything? Is it anything against an institution, that a man goes into it, and afterwards becomes a scalliwag, and he remains so ever afterwards? It is nothing against the institution. It is nothing against an institution to have received as an honest man, one who afterwards proved to be a quack. And it is nothing against our institutions that there are just as good men outside of them, as were ever in them. They have been valuable; they might have been eminently more so, had they been properly sustained.

I am not making a special plea for the Colleges, but for the profession and for humanity.

It has been said, that degrees are some times conferred on young men who ought not to have them. That perhaps, is the case; it is the case in every College in the land; it is so in every literary institution, and I think we have, perhaps, as thorough protection in this matter as it is possible to make. I will simply refer to the method of examination that is adopted in one of the Dental Colleges at least. At the close of the last session, each teacher wrote his list of questions on the black-board, and the members of the class

sat in their seats and wrote the answers to those questions. These questions ranged in numbers from twelve to forty. Each student remained in his seat till the answers were written, and passed in, seventy-five per cent. of which were required to be correct.

Dr. Watt—In addition to that it was left for the members of the Faculty to say whether the answers to his questions were correct or not. He might want to make them believe that he taught so well that his questions were always answered right; the answers of the students were read to the Faculty and they voted on all the answers. So, if the teacher had a pet student there was no chance for him, as the teacher was not left to decide.

Dr. Keely—I know at this time it is looked upon as of far more importance than formerly—this matter of educating students. Who is he, I want to know, in the first place? I want to know if he is an intelligent, honest young man, if he is a young man that I would be proud to introduce to my family and female friends. This I consider very important, and further than that I always felt that I never would wish a young man to go out of my office and state to the public that he was a student of mine unless he was qualified—at least as much so as it was possible for me to make him as a student for two years. Farther than this, I have always had my students pledge their honor that they would, as soon as possible, after they got away, take a regular course in some Dental College, and many have done it; several have not finished their course; several have taken one course and I know they will finish that course. I know that I do not do much for the Ohio Dental College, or for any particular Dental College; I do not wish you to understand, gentlemen, that I pledge my students to attend the Ohio Dental College, but some Dental College. Here is a matter that I think the most of us are at fault in not, when taking young men into the profession, urging them to take a course at the Dental College. Young men who have been in practice a few

years by studying a little at a Dental College, have qualified themselves in due time, while some it did not require so long a time. This is the point I want to get at to urge upon every member of this society the importance of every young man attending some Dental College.

Dr. James—This last resolution is very good but it seems to me that there is a large portion of intelligent, worthy young men who will find it, so far as their finances are concerned, an utter impossibility to attend a Dental College. Would it not be well to insert in that resolution, "provided their finances will allow it, to take two courses of lectures in a College.

Dr. Cady—I would like to know how much time is required at the Dental College at Cincinnati, and about what the expense is including board. I ask for this reason:—We are applied to now by two intelligent young men, one of them is a College graduate of this city, twenty-four years of age. He has money, as far as that is concerned, but I want to know what the terms are.

And another thing I enquire, if a young man comes in my office and remains two years and then enters the Dental College whether it helps him towards getting through; hurries him through; or can he go there from the farm and get through just as quick as if he had his two years instruction in my office? I would like to understand these things a little clearer.

Dr. Watt—The terms are published in the advertisements and announcements. I believe it is said a satisfactory Dental pupilage and two courses of lectures are required for graduation.

Dr. Taft—That depends altogether on the character of the pupilage. As I said awhile ago, better not have any Dental instruction at all than to have it of an improper kind. If a young man is encouraged and aided on in studying the elementary principles, anatomy, pathology, physiology, etc., he can get on and follow a lecturer in his course much better; but if



a young man comes perfectly green, he will find it exceeding hard work to follow up the course of instruction that is given him from the different chairs. The same thing is true with regard to the practical departments. If he is properly trained by a preceptor, the more of it he has the better, and the faster he can go on picking up ideas and the more perfect he will become in the end. But sometimes young men have been taken in with very little preparation—very little indeed—they will receive them if they have had but a few months pupilage or training, but then they have to pursue their studies closely all the while.

You will understand this, that every young man has to pass an examination before he can receive a diploma. He must come up to a certain standard if it takes him ten years to do it, but if he does it in two sessions and a short pupilage all well. If he comes up and stands a thorough examination though he may have made all his attainments in the College, that is sufficient. He has to present a piece of mechanical work for the inspection of the Faculty, and the teacher of operative Dentistry reports upon the character of his operations to the Faculty. The question is asked what is the character of his operations? Does he put in good fillings? It is all brought out, and generally, the members of the Faculty see these operations, they come in uniformly and see them.

It is not only a mere oral or written examination that decides the matter, but in operative ability he must come up to the standard or he cannot pass; and the more good Dental pupilage he can have, the better. Of course, any one taking a student for a two years pupilage, it is ordinarily regarded that he may take his two courses of lectures when he chooses, each occupying four months, eighteen weeks of instruction, aside from the holidays; after he takes this course of instruction for two years, if he stands an examination he receives his diploma. But it is the fewest number indeed that can pass an examination in two years



The expenses the first year in the College is one hundred and ten dollars, and it may be, the same amount for board, making for contingent expenses about two hundred and fifty dollars for the first, and three hundred for the second.

Dr. Cady—What difference does it make about a student remaining in our office, you say you do not give him a sheep-skin till he has arrived at a certain standard.

Dr. Taft—I think it would be well that he take two years pupillage first, and two years in the College afterwards.

Dr. DeCamp—I will state what has been our custom for a number of years and the brethren here may determine whether we are right or wrong. As Dr. Taft remarked, we make it a rule, and have kept it up, that we would take no young man as a student unless, in the first place, he had a good English education, and was a moral young man, upright in every respect, and a young man with proper capacity to make a man with proper training. We adhere to these terms. We have recently taken two on these terms. We bind them to stay two years and take a regular course in some Dental College. The course of instruction in the office, as a matter of course, is a thorough course of reading in the text-books.



### INDIANA STATE DENTAL ASSOCIATION.

The 9th annual meeting of this Association will be held in INDIANAPOLIS, on TUESDAY, JUNE 25th, 1867, at 2 P. M. Ample arrangements have been made for the occasion, and it is confidently believed that the progressive spirit of the Dentists of our State will insure for the meeting a complete success.

Prof. Taft says : "I will endeavor to be at your State meeting in June," and other distinguished members of our profession are expected to visit us, and contribute their counsels of accumulated wisdom and experience.

The next meeting of the "American Dental Association" will

be held in Cincinnati, and a full delegation from Indiana is desirable; but as this is a representative body, it is necessary to attend our State meeting in order to become delegates and participate in its deliberations. All Dentists in good standing are cordially invited to meet with us, and it is hoped that every Dentist in the State, who esteems his profession, will be present if possible.

## PROGRAMME.

- 1st. The regular order of business, as prescribed by the Constitution and By-Laws.
- 2d. Clinics will be had daily during the meeting.
- 3d. Miscellaneous business, to be called up at any time not assigned.
- 4th. The Microscope and its uses.
- 5th. "Dental Medicines."
- 6th. "Dental Anæsthetics."
- 7th. The "Bill to regulate the practice of Dentistry."
- 8th. A Library and Museum for the State Association.
- 9th. The Goodyear and Cummings Patents.

E. M. MORRISON, Noblesville,

J. KNAPP, *Pres't.*

*Chairman of Executive Com.*

FORT WAYNE.

J. F. JOHNSON, *Sec'y.*

INDIANAPOLIS.

It being difficult to engage a suitable room so far in advance of the time it will be wanted, as proposed by the Chairman of Executive Committee, the Secretary would suggest that Dentists call at Messrs. Strong & Smith's Dental Depot, South-West corner of Pennsylvania and Market Streets, where they will be informed of the place of meeting. It is but just to say to the profession, that the above named firm have kindly offered to furnish the operating chairs, and other appliances that may be required for clinical purposes by the Association, free of charge.

JOHN F. JOHNSTON *Secretary.*

INDIANAPOLIS, *March 25th*, 1867.

## OLD COLONY DENTAL ASSOCIATION.

In accordance with a call issued by the Dentists of South-Eastern Massachusetts, who were present at the recent session of the United States Dental Association, in Boston, a convention of Dentists was held at Middleboro, on the 15th of August, 1866, to consider the subject of forming an Association in this section of the State.

Dr. D. S. Dickerman, of Taunton, was chosen President, *pro tem.*, and Dr. C. E. Williams, of Fall River, Secretary. Voted to organize a society to be called the "Old Colony Dental Association." A constitution was adopted, and the following Officers elected:—President, D. S. DICKERMAN, D. D. S., of Taunton; Vice-President, ———; Recording Secretary, GEORGE R. WHITNEY, of North Bridgewater; Corresponding Secretary, LORING W. PUFFER, of North Bridgewater; Librarian and Treasurer, JULIUS THOMPSON, of Taunton.

<i>Executive</i> <i>Committee.</i>	{	N. C. Fowler,
		C. G. Davis,
		Julius Thompson,
		C. E. Williams,
		L. W. Puffer,

The first meeting of the Association was held at Bridgewater, Sept. 10th. An essay on alveolar abscess was read by Dr. D. S. Dickerman, of Taunton. Clinic by Dr. N. C. Fowler, of Yarmouthport. The second meeting was held at Taunton, Nov. 12th; J. C. Parkard, of North Bridgewater, J. Q. Dickerman, and James Utley, of Taunton, were elected members of this Association. Clinic by Dr. Thompson, of Taunton; Essay by Dr. C. G. Davis, of New Bedford, on the comparative value of Anæsthetics. The third meeting of the Association was held at the Parke's House, New Bedford, January 14th, 1867. Clinics by Dr. D. S. Dickerman, of Taunton, and C. G. Davis, of New Bedford. Dr. J. Q. Dickerman, of Taunton, explained Dr. Hurd's method of taking impressions (in flat mouths?). The fourth meeting

was held at Taunton, March 12th, 1867. Dr. Thompson read an essay on the extraction of teeth; a revised Constitution, By-Laws and Code of Ethics were adopted, and a Committee appointed to have the same printed. Drs. D. S. Dickerman, of Taunton, C. G. Davis, of New Bedford, and L. W. Puffer, of North Bridgewater, were elected delegates to represent this Association, at the next meeting of the American Dental Association. Hereafter the meetings will be quarterly. The next meeting will be held on April 10th, at North Bridgewater. Sessions day and evening. The profession are invited. Essay by Dr. Fowler, of Yarmouthport. Subject for discussion—Inflammation of the Gums.

L. W. PUFFER, *Cor. Sec'y.*



### HUDSON RIVER ASSOCIATION OF DENTAL SURGEONS.

This Association was formed at Poughkeepsie, April 25, 1867. There was a general attendance of members of the profession residing upon and contiguous to the Hudson River.

The following officers were elected:

*President.*—Dr. E. D. Fuller, Peakskill.

*Vice-Presidents.*—Dr. W. A. Palmer, Poughkeepsie; Dr. Geo. Allan, Newburgh.

*Secretary.*—L. S. Straw, Newburgh.

*Corresponding Secretary.*—Dr. Dubois, Poughkeepsie.

*Treasurer.*—Dr. C. Royce, Middletown.

*Executive Committee.*—Dr. Shelton, Hudson; Dr. Holley, Warwick; Dr. Finch, Kingston; Dr. Vanduser, Poughkeepsie; Dr. Cross, Rhinebeck.

## OHIO STATE DENTAL SOCIETY.

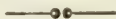
The Semi-Annual Meeting of the "Ohio State Dental Society" will convene in the City of Columbus, at 10 o'clock, A. M., on Tuesday, June 18, 1867. The following subjects have been selected by the Executive Committee for discussion :

1. The different preparations of Gold for filling Teeth.
2. Filling over exposed Pulp.
3. Correcting irregularities of Teeth.
4. Necrosis; causes and treatment.
5. Professional standing of the Dentist.
6. Miscellaneous.

You are cordially invited to be present at this meeting, and to bring your friends in the profession with you.

GEO. WATT, Pres't,

A. W. MAXWELL, Cor. Sec'y,  
*Galion.*



## . DELAWARE DENTAL ASSOCIATION.

The Seventh Semi-Annual Convention of the "Delaware Dental Association," will assemble at Dover, Delaware, on Thursday, the 13th day of June at 10 o'clock A. M., at which time we hope and expect to be greeted by your presence.

Business of the most vital interest to our profession will claim the attention of this meeting; therefore, it is important that every Dentist in this region should, if necessary, make some sacrifice to be present.

A Bill to regulate the practice, and, to some extent, control the members of our profession in Delaware, will be considered and prepared to lay before the next Legislature, of the State.

The Constitution and By-Laws of our Association will be ready for distribution, and other business of interest and im-



portance to the profession will be transacted. Come and help us, or abide the consequences.

The members from Wilmington and vicinity, will go to Dover the evening before the meeting, on the train, which, under the present arrangement, leaves Wilmington at 6 P. M., and return the next evening.

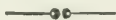
A change of hour is anticipated, but that will not materially change the programme. All who can go down and spend a social evening before the meeting, will no doubt enjoy it.

Professionally, yours,

SAMUEL MARSHALL,

*Corresponding Secretary.*

MAY, 1867.



### CHICAGO DENTAL SOCIETY.

At the annual meeting of this Association, held on the evening of April 9th, the following officers were elected for the ensuing year :

*President.*—Dr. S. B. Noble.

*1st Vice-President.*—Dr. A. W. Freeman.

*2d Vice-President.*—Dr. J. H. Young.

*Secretary.*—Dr. A. E. Brown.

*Treasurer.*—Dr. Wm. Albaugh.

*Librarian.*—Dr. W. S. Stephens.

*Executive Committee.*—Dr. G. H. Cushing, Dr. J. W. Ellis, Dr. M. S. Dean.



### “THE IOWA STATE DENTAL SOCIETY”

Will hold its next session at Lyons, on Tuesday, July 9th, at 7½ o'clock, P. M. There will be a session of two whole days. You are earnestly invited to attend, and take an active part in the proceedings. If you have microscopical

specimens of teeth; Dental curiosities; new or improved instruments; casts of malformations, &c., &c., please bring them. Those having microscopes of 300 diameters and over, are requested to bring them. *Write out* and report any interesting cases that you may have had. *Volunteer* essays are called for.

The following Essayists have been appointed:

J. F. Sanborn, The Relation of Matter; T. P. Smith, Dental Quackery; L. C. Ingersoll, The Medical Limit of the Dentist's Sphere; H. D. Bronson, Cause and Treatment of Irregularities; R. A. Cochran, Physiology of Dentification; W. O. Kulp, Principles and Practice of Plugging Teeth; J. P. Porter, The Relative Value of Continuous Gum Work; Miss Lucy Hobbs, Treatment of Sensative Dentine; A. B. Mason, Making and Tempering Instruments; J. Hardman, Anæsthesia; H. S. Chase, Cellular Physiology.

In addition to discussion on the Essays, the following subjects will also be discussed:

Alveolar Hemorrhage; Inflammation; Peri-cementitis; Treatment of Pulp Cavities; Pathology of Dental Decay; Hereditary Influences on the Teeth; How is Decay arrested without the Aid of the Dentist; Alveolar Abscess.

Several distinguished Dentists are expected from abroad. Do not let *business* keep you from this meeting. We hope it will be the best one that we have ever had, and this is saying a great deal. It is a duty that we owe to ourselves, to our patients and to our chosen Profession to elevate and improve ourselves and each other in every thing that pertains to the Science of Dentistry.

Fraternally, Yours,

H. S. CHASE,

*Corresponding Secretary.*

## Editorial.

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### "TEETH EXTRACTED WITHOUT PAIN."

IN the Dental profession, as in the world, there are two kinds of people. In regard to the pain inflicted by cutting out sensitive dentine, extirpating the pulp, or driving a wedge between the necks of the teeth, I have heard heroic operators complacently remark, "the pain's the patient's business. Mine is to make a good operation." And this is true, but not to the unfeeling extent to which it is carried, by those with whom it is a favorite expression. The other class, through a too ardent desire to avoid the infliction of present pain, often disregard the patient's best interests; and of the two errors, this is by far the more serious.

In the present condition of the race, the amount of suffering directly resulting from morbid dentition, and diseased Dental organs, is so great, and its character so severe, that simply to think of it is appalling. The rueful countenance, the piteous wail, the convulsive shudder, the stupor, and the death of the little babe, are sad comments on the condition of fallen man. "Who did sin—this man or his parents, that he was born blind," is a melancholy query propounded to him who spake as never man spake. The light of science corroborates the teaching of inspiration that the iniquities of the fathers are visited upon the children.

It is, then, to be expected that for several generations yet to come, defective teeth will be found, and some so defective that their restoration to health will not be practicable. And as teeth diseased beyond a slight morbidity are absolutely intolerable, at least occasional extraction will be indicated, and will even be necessary, and if necessary—pain or no pain—"that's the question."

At present, the extraction of teeth is more frequently required than are all other surgical operations combined. And, however, lightly some may regard it, the extraction of a tooth is a severe

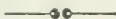
operation. It is painful, and produces a decided nervous shock. The teeth are, mechanically considered, very firmly attached to the organism. Their vital connection is also very decided. I have known men who neither moaned nor murmured at being mangled by bullets, who, nevertheless, shrieked and trembled from the pain of ordinary tooth-extraction. In most cases, the extraction of a dozen teeth is as severe as the amputation of an arm, and the consequences are less serious, only on account of the difference in the structure and vitality of the parts mutilated. The Surgeon, who would, under ordinary circumstances, amputate an arm without resorting to anaesthesia, would be guilty of malpractice. Is the Dental Surgeon, then, to be criticised and condemned for a similar resort in an operation equally severe? Or, because his operation is divisible, must he reduce the vitality of his patient, by a series of a dozen painful operations, with as many nervous shocks, to say nothing of the mental anguish, protracted through the several intervals? Such Surgery is but little if at all better than that of the boy who cut off the dog's tail, an inch at a time, regarding the removal of the entire organ at once, as quite too severe.

But the quotation with which this is headed, is regarded by some as a baneful announcement to afflicted humanity. Even with pain, far too many teeth are extracted, say they; and no honest, well-informed man will dispute this. But if this is meant as an argument against painless extraction, it proves too much. The improved forceps must be thrown aside, and the barbarous (or barber-ous) turnkey resumed. Men of science and skill must cease to operate, and leave extraction to the blacksmith and the butcher. By a good deal of management, the operation might be made far more terrible than ever, and even then, it is probable teeth would be extracted that ought to be saved. If sound here, the argument is equally valid in general Surgery. Anaesthesia must be abandoned, for too much cutting is done. Patients insist on having organs removed that might be saved. It will not be safe or proper to mitigate the pains of maternity, for as matters stand even now, too many babes are born in some families.

As an admirer of human organism in all its integrity, I yield

to no one. I never remove an organ, or mutilate the system in any way, without a feeling of sadness. If any one is more conscious than I, that thousands of teeth are daily sacrificed on the altars of avarice and ignorance, I will sit at his feet and listen to his recitals, as a child listens to the tale of midnight murder. But as long as any mutilation is necessary, let that be painless whenever practicable. I know it is urged by some that pain is a blessing. Certainly not a blessing *per se*—in its own essence. Though ignorant of what freedom from pain is, my faith takes hold of the promise, "There remaineth a *rest* to the people of God," not a *pain*; that is not reserved for them, as it would be if a blessing.

The removal of Adam's rib took place while he was in an anæsthetic state, and it is a wonder that Surgery has been so slow to take the hint legitimately deducible from this fact. It is to be hoped that the day is not far distant when all Surgical operations will be painless.



### THE CODE OF ETHICS.

THE Code of ethics of the "American Dental Association" has, as far as known, met with a favorable reception by the local societies which have taken it into serious consideration. The Ohio State Society adopted it, though its own, previously adopted, covered the same grounds. The "Mississippi Valley Association" had her mind made up, and adopted it by a unanimous vote, without debate. Several of the eastern societies, and nearly, if not all in the west and south have recognized it. It has met with a little opposition in certain quarters, as was expected by its friends and advocates. It met with some in the American Association at the Boston meeting, or, as another has remarked, it "elicited much discussion, and no little opposition." The amount of discussion was really small, in comparison with that of other matters that came before the meeting, and in view of the great importance of the subject; and the "opposition" showed but a small force at the final vote.

A few general thoughts on this subject may not be out of place.



That something of the kind was needed, had been indicated for years. Prominent members of the profession, at various times and places, had written ably and earnestly on the subject of professional ethics. Societies and associations had recognized the principle that their members were responsible, *as members*, for their professional conduct, and liable to censure for violation of professional ethics. And even one who regards a code of ethics "as unnecessary for gentlemen, and its enforcement impracticable upon those who are not," recommended, as a member of an important committee, the transfer of the following clause from the by-laws of the Association to its constitution: "Any act of special immorality or unprofessional conduct, committed by a member of this Association, shall be referred to the Committee of Arrangements, whose duty it shall be to thoroughly examine into the case, and report at the next meeting if the charges be sustained. Whereupon, by vote, the offending member may be reprimanded or expelled; a two-thirds vote being required for expulsion, a plurality being sufficient for reprimand." This is a law of the Association, and has been for years. A member is liable to expulsion even, for "unprofessional conduct," while previous to its last meeting the Association had no guide or rule to define what professional conduct is. "In those days there was no king in Israel; every man did that which was right in his own eyes."

The Association appeared to be thoroughly ready for action in the matter; and therefore, but little, if any opposition was made to the appointment of a Committee to prepare a "Code of Ethics." Of the Committee it is not necessary to speak. The Code, and not its authors, should engage our attention. It may not be amiss to state that the senior member of the Committee had read an article on Professional Ethics at the preceding annual meeting, and had carefully reconsidered the paper in regard to any modification that might seem advisable with reference to its adoption by the Association. Another member had lately acted as a member of a similar committee in the "Ohio State Dental Society," and hence, his thoughts were somewhat matured. The experience and general fitness of the other member will be universally recog-

nized: but, unfortunately, as he<sup>s</sup> stated in open society, the Committee and the Association were deprived of his valuable services in the preparation of the document. The other members, however, had the gratification of his cordially expressed approval of the report, and the appending of his signature to it. The Committee was appointed the morning of the first day, and the "Code" was adopted the evening of the fourth. It was deliberately prepared, deliberately discussed, and as deliberately adopted.

But, after all, there is no doubt that the "Code of Ethics" is very imperfect. Human documents usually are. Even the "Declaration of Independence" might be improved. The duty before us is, therefore, a plain one. Without passion, petulance, or prejudice, let defects be remedied as promptly as they are demonstrated. If important principles have been omitted, let them be added; if anything is contained that should be omitted, let it be stricken out. Let all be done cordially and frankly. Let nothing be done to gratify personal feeling; and when anything is done, let those who are fairly out-voted gracefully acquiesce.

W.



### DEATH OF DR. JOHN R. McCURDY.

THE heading of this is not penned as a news item. The death of John R. McCurdy is doubtless known to nearly all our readers. He died on the 27th of last January, of consumption, at his home in Philadelphia.

When the sad event occurred, the writer of this had but a dim prospect of life; and the news, so painful to others, suggested to him that a friend had gone before. The career of Dr. McCurdy was a highly successful one, and was so strongly enstamped on the Dental profession that its impressions will be ever recognized. As a member of the firm of Jones, White & McCurdy, as editor of the "Dental News Letter," as a friend to the profession, an active co-operator in all that tended to elevate and advance its interests, he had few equals. His was an active, earnest, energetic life. The world is the better for his having lived.

W.

## THE AMERICAN JOURNAL OF DENTAL SCIENCE.

THERE are several journals in America devoted to Dental science; but this is *the* "American Journal." How familiar the name sounds! As I write, I fancy myself fanned by the great angel-wings of the "lamented"—why no!—of the *sainted* HARRIS.

The "American Journal" is revived—a monthly, at \$3 per annum, and is edited by Professors Piggot and Gorgas. The first number makes a fine appearance, and has a good variety of able and well written communications and editorials. Professor Piggot has a large editorial experience, and a fine literary reputation. Professor Gorgas is a clear and forcible writer. We never felt content with the suspension of the "American Journal." Its apparent demise suggested, all too painfully, that the "REGISTER" might share the same fate, if somebody should die. We feel much better now. The "REGISTER" had got very tired being the oldest Dental journal.

Reader, subscribe for the *Journal*. Your money will be well invested. W.



## AMERICAN DENTAL ASSOCIATION.

THE American Dental Association will hold its Seventh Annual Meeting in Cincinnati, on Tuesday, July 30th, 1867. There is good reason to hope that this will be the most profitable meeting of the profession ever held. The great increase of local and State societies, the consequent increase of delegates, the large attendance of permanent members, the place of meeting being central, all indicate a good meeting. Let there be a thorough reunion of our profession, which was never separated or divided in brotherly feeling, however long they may have been kept asunder by adverse circumstances beyond their control. The profession in this vicinity are expecting their brethren and friends, regardless of distance or geography. Come on! brethren. Cincinnati is a good place to come to. If you don't believe it, ask your family physicians who have just got home from the meeting of the "American Medical Association." W.

## OHIO STATE DENTAL SOCIETY.

THE Ohio State Dental Society will hold its next semi-annual meeting in Columbus on Tuesday, the 18th of June. The season of the year will be pleasant. The place is central. The few days necessary to attend the meeting could not be more profitably spent otherwise by any Dentist in the State. The constitution limits the admission of members to the regular meetings. It is hoped that many new members may be admitted at this meeting. Let us all attend.

W.



## SPECIALTIES IN MEDICINE.

THE subject indicated by our caption has, for some time, elicited a good share of attention in the "American Medical Association," as well as in other medical societies. In the capacity of reporter for the press, we have visited the meetings of the Cincinnati Academy of Medicine a number of times. The "Academy" is composed exclusively of regular physicians,—graduates in active practice in Cincinnati—at least its active members must be such; and it appears to include in its membership much, and perhaps nearly all the medical talent of the city.

In our visits, though always entertained, generally edified, and often amused, we have not met with much bearing on the interests of Dental surgery directly, and hence our silence in the "REGISTER."

A few weeks ago the subject of specialties was under consideration, and the discussion was led off by Prof. Williams, the oculist and aurist, a professor in the Miami Medical College, and one of the editors of the "Western Lancet and Observer." Of course he advocated specialties, and we are happy to state he did so ably and well. We have heard nothing better on the subject since the lecture of the late Prof. Brainerd, before the Chicago meeting of the "American Dental Association." He was eloquently followed by Prof. Graham, of the Ohio Medical College, who also advocated the practice of specialties; and he was followed by

Prof. Murphy, of the Miami College, and an editor of the "Lancet and Observer," who also approved of the practice of specialties. All three urged a thorough acquaintance with general medicine before resorting to special practice. Specialist empirics received special condemnation from all of them. The subject was laid over for further consideration, Prof. Blackman, of the Ohio Medical College, remarking that he would like to discuss it, being himself a specialist.

Now, we have been thus minute, because this is a subject in which Dental surgeons have a peculiar interest, they being simply practitioners of a specialty. In former years, and the same is true to some extent yet, there was a strong prejudice against special practitioners on the part of the medical profession. The views of the speakers above referred to would indicate that a change is coming, if it has not already arrived. That this prejudice ever obtained a foot-hold is strange. If a man is so modest that he thinks the whole range of medical practice too large a field for his mental capacity, or that he can be more useful in a narrower sphere, is he to be cast out of the society of the faithful? The history of the progress of Dental science affords the strongest argument extant in favor of specialties in medical science. But a few years ago aching teeth were indiscriminately extracted, without mercy, with barbarous, unwieldy instruments worthy of the Spanish Inquisition; and scarce a thought of arresting the ravages of Dental caries ever entered the minds of medical men. Within the recollection of most of us, artificial teeth were resorted to only to improve the appearance and to aid the speech. The state of affairs now is as well known to the reader as to us. Till the practice of Dental surgery became a specialty, the medical profession had failed even to approximate a correct knowledge of the pathology of Dental decay, the most common ailment of afflicted humanity, and one of the most painful. Nor is it sufficient excuse for this want of knowledge that the disease is not a serious one, or that the teeth are unimportant organs. Few agencies do more to deteriorate the race than the diseases of dentition, to say nothing of the sufferings they cause. Defects of dentition are transmitted to offspring from generation to generation, involving defects in the



whole process of nutrition. That the profession, the cause of science, and the world, gain much by the adoption of specialties in medicine is illustrated by the connection of the Dental profession with the history of anæsthesia. Let an active mind be restricted to special practice, having time to study the minute details of science, direct and collateral, that bear on his specialty, he is not long content with what is already known on the subject, but launches out for new discoveries. The Dentist having to inflict pain oftener than any other practitioner, it is not strange that he has been more industrious in a search for something to prevent the pain of operations. Having the time, the freedom from the anxieties and great responsibilities of general practitioners, added to the greater frequency of their painful operations, it is not strange that the Dental profession, and not the medical, discovered and developed anæsthesia. Nor is it strange, on the same principle, that when the first successful anæsthetic was abandoned, notwithstanding its great superiority over others for short and severe operations, after a lapse of nearly a quarter of a century, it is re-introduced, and its use revived, with manifold improvements, not by the medical, but by the Dental profession. For the same reasons, the several methods of producing local anæsthesia, are the discoveries of Dentists.

We do not know what was said or done at the late meeting of the "American Medical Association" on the subject of specialties. Unfortunately for ourselves, if not for our readers, prior and more pressing engagements prevented our attendance. But from all the indications coming under our observation, it is evident that the idea of specialties is rapidly gaining in favor. At the last meeting of the "Mississippi Valley Association of Dental Surgeons," the subject of specialties in dental surgery occupied a good deal of attention, and was earnestly advocated by several of the leading members of the society. They felt that great good had been done by specializing Dental surgery, and were fully convinced that further good was to be gained by additional subdivisions and specializations.

The success of ophthalmic surgery, as a specialty, is an argument second only to that of Dental surgery, in favor of the views here advocated. This was the point mainly dwelt on by Prof.

Williams at the meeting referred to, only he placed the success of the oculists as the paramount argument in this respect, and he may be right. That one argument would be sufficient, if there was no prejudice to be overcome.

All the speakers at the meeting spoken of, dwelt on the great importance of a man being educated thoroughly as a general practitioner, before assuming to practice any specialty. In the main this is the correct doctrine. But if a man has made up his mind to practice Dental, or ophthalmic surgery, it is not essential that he should be as minutely educated in obstetrics as if he intended to go into general practice; yet without a fair knowledge of the anatomy, physiology, and even pathology of the human female, he is not fit for the proper practice of any specialty.

Our Dental colleges all recognize this principle; and their courses on anatomy, physiology, pathology and chemistry, are quite as extended and minute as they ordinarily are in medical schools; and their course on therapeutics is as extensive, in proportion to the number of diseased conditions likely to come under their care. Of the truth of these statements, no one will have doubts, who reads the report of the examinations for degrees, in the March number of the REGISTER. The examinations in the other colleges, for anything we know, are equally rigid and thorough.

W.

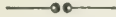
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#### CONVENTION OF MEDICAL TEACHERS.

A FEW days preceding the meeting of the "American Medical Association," representatives of nearly all the medical schools in America assembled to consult in regard to the various interests of medical education. This is a very important movement. A longer course, a more thorough curriculum, the preliminary qualifications of students, lecture fees, and a number of other things needed consideration, and we are gratified to learn that there was no sign of retrograding, but the meeting appeared to be alive to the demands of the age, and the interests of professional science. We are not fully informed as to all the good things likely to result from the meeting, and hence may refer to the matter more fully in a future number. The various Dental

Colleges have formed an Association, adopted a uniform curriculum, lengthened their sessions, and taken many other important steps likely to increase their usefulness. This subsequent action of the medical faculties will give their effort great moral support.

W.



### THE AMERICAN MEDICAL ASSOCIATION.

THIS, the most important medical society in America, lately met in this city. We were prevented from giving much attention to its meetings. Some of its proceedings were highly important, some not very, as appears to be necessary in this fallen condition of mankind. The profession here, and the city, feasted the members, showed them the fire engines, took them riding on a steamboat and in carriages, took them to a wine-cellar, to the lunatic asylum, and to a grave-yard. The whole was a grand scene of huge enjoyment; and what is remarkable, the profession here had a little money left in their treasury, after defraying the expenses of all the entertainments.

Prof. Gross, of Philadelphia, was president. The next meeting will be in Washington City. A few subjects specially interesting to Dentists were discussed, but we are not sufficiently posted to speak, in detail, of their disposition. We presume the members feel about as those of the "American Dental Association" usually do on such occasions, that so much of display, entertainment, and hospitality in general, while very pleasant, interferes very much with the scientific results of the meeting. But this is a difficult matter to regulate. Some people like to be hospitable, or at least dislike to be far behind their neighbors in this respect. We believe the wish of the Association is to have less time, hereafter, devoted to the social, and more to the scientific interests of the profession; and, as we are imitative animals, we hope, after the Cincinnati meeting, the Dental Association will follow suit. We can eat and drink, and "laugh and grow fat" at home; but we cannot there interchange scientific thoughts with the leading minds of the profession, within the space of a few days.

W.

## AMERICAN DENTAL ASSOCIATION.

This body meets, according to adjournment, in the City of Cincinnati, on the last Tuesday of July. It is confidently expected that there will be a large attendance; probably larger than ever before. In order that the meeting be one of interest and profit, all the members should come with the full purpose of accomplishing the most possible. Every one should come with a purpose and a preparation to do his full share of the work. The responsibility of making the meeting an interesting one does not rest upon the officers, nor upon any committee, but it does rest upon *all the members* who may be present, and hence we hope that every one will bring his contribution, and time shall be afforded for its presentation. The time of the Association, so far at least, as the arrangements of the Executive Committee are concerned, shall be devoted exclusively to its legitimate work. Outside attractions will be wholly ignored during the time of the sessions. We say this because of a thorough conviction that the members of the Association wish to have it so.

The Executive Committee have made ample arrangements for the accommodation of the Association. Hopkins' Music Hall, on Fourth Street, near Elm, a very excellent room, has been secured. There are sufficient ante rooms, and a fine room for clinics.

The Committee will be at the room as early as 8 o'clock on the morning of the first day, for the purpose of receiving the credentials of new members. It is desirable that that part of the business be done before the regular hour of meeting, so far as practicable. Delegates will therefore report early. Arrangements have been made for the accommodation of the members, with the Burnet House, the Clarendon Hotel, and the Saint James, in either of which the accommodations and arrangements will be all that the most fastidious could desire. Any parties wishing to secure rooms can do so by notifying Dr. H. R. Smith, of this city, who will give prompt attention to such requests.

Very efficient arrangements have been made for the presentation and exhibition of instruments and appliances. We hope that all members having any thing new and valuable, or even though it may be old and valuable, and not generally known to the profession, will not fail to bring it in. A fixed time each day has been assigned for such exhibition.

Any articles for exhibition consigned to Dr. H. R. Smith, will be received and taken care of by him.

J. TAFT,  
W. H. GODDARD, } *Com. of Arrangements.*  
H. R. SMITH, }

# THE DENTAL REGISTER.

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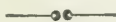
VOL. XXI.]

JULY, 1867.

[No. 7.

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## Original Communications.



### RED BLOOD-GLOBULES.

BY G. W. DECAMP, D.D.S., MANSFIELD, O.

Read before the Central Ohio Dental Association.

GENTLEMEN:—I do not expect to present any unknown truth, nor to do more than simply call your attention to a subject which is, to a certain extent, clouded with mystery.

A thorough knowledge of the constituents of the blood is of importance to an intelligent Dentist. It is clearly seen that the condition of the blood exerts an influence on the teeth, as well as on other parts of the body; and all will agree that we should not only know what articles of food are best for it, but that we should also know its composition and formation.

The blood is a non-homogeneous fluid, and is easily distinguished from the other fluids of the body by its color. Its taste is slightly saline, its reaction slightly alkaline, its odor peculiar, and it is somewhat unctuous to the touch. Its specific gravity varies, being usually about 1.055. It is composed of red and colorless corpuscles, fibrin, albumen, fatty matter, salts, mineral substances and water. In bulk, the corpuscles exist in the proportion of about 512 parts of



moist corpuscles to 488 parts of the liquor sanguinis in a thousand. A slight variation either above or below this proportion of moist globules is not generally incompatible with a good state of health.

According to Lehman and others, the average weights of the constituents of the blood, in a thousand parts, are, corpuscles,  $149\frac{1}{2}$  parts; fibrin, 2 parts; albumen,  $39\frac{1}{2}$  parts; fatty matter, 2 parts; salts and mineral substances,  $8\frac{1}{2}$  parts; extractive matter, 3 parts; water,  $795\frac{1}{2}$  parts.

The red globules vary in size, their transverse diameter being from  $\frac{1}{3000}$  to  $\frac{1}{4000}$  of an inch. In form they are spheroidal, with a depression on either side. They are from  $\frac{1}{14000}$  to  $\frac{1}{15000}$  of an inch in thickness, or about  $\frac{1}{5}$  of their transverse diameter.

As to the structure of red blood-globules, there has been and is a wide difference of opinion. Dalton considers them homogeneous in structure, consisting of a mass of organized animal substance, he also says: "They have sometimes been erroneously described as consisting of a closed vesicle or cell-wall containing in its cavity some fluid or semi-fluid substance of a different character from that composing the walls of the vesicle itself. No such structure, however, is to be seen in them."

Again, he says: "They are of the same color, consistency and composition throughout."

Other prominent writers differ with Dalton. Williams believes the red corpuscles of the blood to be formed of delicate hollow films of albuminous substance, containing, in their interior cavity, a liquid compound of two peculiar azotized principles mingled together. Thus, we see the opinion of Dalton—"That in color, consistency and composition, the red blood-globules are the same throughout"—is in direct opposition to the views of other medical authors. Which is right I leave for you to judge.

The blood globules, according to Lehman, are found to be composed in a thousand parts: water, 688 parts; globulin,

282.22 parts; hæmatine, 16.75 parts; fatty substances, 2.31 parts; extractive matter, 2.60 parts; chloride of sodium, chloride of potassium, phosphate of soda, phosphate of potassa, Sulphate of soda, sulphate of potassa, phosphate of lime and magnesia, 2.12 parts.

Globuline and Hæmatine are the more important ingredients. Globuline is about  $16\frac{3}{4}$  times more abundant than Hæmatine, it is an albuminous fluid, is soluble in water, coagulates at a temperature from  $158^{\circ}$  to  $200^{\circ}$  F.

Hæmatine is the coloring matter of the blood globules. It is composed of carbon, oxygen, nitrogen, hydrogen and iron, the latter of which composes from six to seven per cent. It is generally considered to be the substance which nourishes the muscular tissues and nervous filaments of the body. The red blood-globules contain the greater part of the phosphate salts, phosphorous and fat, which are largely used in the formation of the nervous and muscular system.

The proportion of red globules found ordinarily in the human blood varies. Williams gives from 110 to 152 in a thousand. Red globules are found to be more abundant in early adult life than at any other period. The proportion is generally from one to two per cent. less in healthy females than in healthy males.

As to the origin of the red globules, little is known, and after carefully searching our best authors upon this subject, we are unable to draw a definite conclusion. It is believed by some that the red globules are matured colorless corpuscles. Dr. Beal's views upon this subject, to be found in the *Edinburgh Medical Journal* and *Journal of Microscopic Science*, Vol. 4, 1864, are as follows: Applying his general views upon "germinal matter" and "formed material" to the blood, believes that the white blood-corpuscle consists of the former and red blood-corpuscle of the latter, and that in red corpuscles containing nuclei, the nucleus represents the germinal matter. Dr. Beal does not believe in the existence of cell-walls. He takes, for illustration, the red blood-cor-

puscles of the frog, the outer part, which can not be colored by carmine, is "formed material" which was once "germinal matter;" he also believes that "germinal matter" is capable of producing matter like itself, and of being resolved into colored "formed material," but that "formed material" is not capable of forming material like itself. It is the seat of chemical and physical action alone. Vital changes are restricted to the "germinal matter."

Dr. Beal states that when the blood becomes stationary, the white corpuscles and nuclei of the red increase in size and subdivide. In inflammation of the vesicles of the frog's foot, the increase of white corpuscles is not alone dependent on the arrest of the circulation, but the corpuscles actually increase in the clot.

Dr. Williams, in reference to the formation of the red globules, says: "During early embryo life they unquestionably increase by a process of subdivision. Each then contain a nucleus cell which parts into two, a new corpuscular vesicle being then developed round either half. In more mature life this multiplication by division does not appear to be continued. There is no nucleus whatever in the complete adult red corpuscle of the human blood. The red corpuscles seem, then, to be formed out of the chyle and lymph globules through some unknown course of transmutation."

In regard to the supposition that the colorless corpuscles change into the colored, he believes there to be a greater probability in the notion that the colorless and colored corpuscles are distinct and independent formations, designed for distinct offices, but both having a common origin—the chyle and lymph globules. Their development, growth and decay depend greatly upon the condition of the organs of nutrition, and also on the lungs, liver, and other glands, also on a proper supply of the ferruginous element of which they are largely composed—(Dr. Mann.)

Dalton, as to the formation of the red globules, differs in part from the opinions of the authors given. He considers

the red and colorless globules as distinct and independent elements. "There is no probability that the red globules are produced or destroyed in any particular part of the body. One cause for the belief that the red corpuscles were produced by a metamorphosis of the colorless globules, was the supposition that the red globules were continually destroyed in some part of the circulation, and, therefore, they must be reproduced to counterbalance their destruction. But there is no reason for believing that the real globules, as anatomical forms would be any less permanent than the nervous filament, or the muscular fiber. They undergo a constant change, it is true, like all the constituent parts of the body, an interstitial metamorphosis. They absorb nutritious substances from the blood, and give to the circulating fluid other substances which result from their internal waste and disintegration. Anatomical forms never undergo destruction or renovation, but only the proximate principles of which they are composed. The effect of this interstitial nutrition in the blood globules is merely to keep them in a healthy condition. Their component parts are continually changed by decomposition and disintegration, as they pass through the body, but the globules retain their form and texture and still remain a constituent part of the blood.

Thus we see, in the theories given, a great difference of opinion among our best authors as to the structure, composition and origin of the red blood-globules; and after a careful search for definite information, we are forced to the conclusion that little is written which gives us a perfect knowledge of this important constituent of the blood.

Would it not be profitable for us, as members of this branch of medicine, to investigate this subject farther, that we may, if possible, be more useful, and also take our rank with other parts of our profession.

## A DENTAL MISCELLANY.

BY GEORGE L. PAINE, D.D.S.

Read before the Mad River Valley Association.

GENTLEMEN:—We do not intend to perpetrate an address or essay, because we have not had the time nor health necessary to perform such duty. We shall give nothing but a sort of Dental hash, or *Olla Podrida*—a sort of Salmagundi, if you please.

One Sabbath morning, some months ago, just as we were about starting to church, a young man called and desired to be relieved of a tooth, stating that he had suffered severely during the preceding night, and must have relief if possible. We examined his teeth, and found them sound as a Mexican dollar—not a defect could we find. He pointed out the offending organ, which was a right superior cuspid, not a defect or sign of decay could we find—no sign of inflammation, though some soreness was manifest upon percussion. Having located the trouble, we decided to drill into the tooth, piercing the nerve, thus carrying the war into Africa. We started the drill in the crown, on a line parallel with the axis of the tooth. When we had reached the nerve there was an escape of gas and some odor, which was the quintessence of fetor. Relief was at once afforded. We made an application of carbolic acid and directed him to call the next morning. The succeeding day we saw him, according to appointment, and he stated that he had slept splendidly the preceding night. We then applied White's preparation to the nerve, and the next day extracted the same. We then treated the canal with creosote and iodine, and filled it in a few days, all pain, soreness and tenderness having disappeared before filling; and at the end of two weeks he stated to me, as he was leaving for his far-off Western home, that said tooth was as useful and comfortable as any in his head. We only adduce this case as one of many similar ones



which might be cited, to show the *folly of extracting teeth*, (as is too often done) which, with a little patience, study and perseverance, might be saved. This man desired to have his tooth extracted, but we positively refused to do so. He had no faith that it could be cured; but the result was, in a high degree, satisfactory to him. Daily, teeth are ruthlessly extracted which might and should be saved.

ANNEALING GOLD FOIL.—Our time, and the temper of plugging instruments, may be saved by annealing our foil before cutting the rope into pellets, by simply passing the gold rope through the flame of a spirit lamp.

When there is a copious flow of saliva in the mouth, it is often exceedingly difficult, if not sometimes impossible, to insert gold filling in an inferior molar and keep the gold and cavity perfectly dry. Moisture is fatal, and insures the failure of the plug. To secure absolute dryness, in filling under teeth, we have found nothing equal to Hawe's tongue-holder. It is just the thing. It beats the rubber dam or any other arrangement of which we have any knowledge.

When a cavity is tender, or the nerve nearly exposed, we like Hill's stopping, and often use it in such cases. We filled a tooth with this preparation five years ago, an approximal cavity, and it and the tooth are both good to this day. We never, on removing one of these fillings, found any fresh decay, or disintegration of the dentine, but found, on the contrary, all right and the cavity dry as Cromwell's powder.

Much pain sometimes follows the extraction of a tooth,—especially is this so when there is periostitis. This may be entirely removed in a few moments by saturating the alveolus with a mixture of creosote and iodine, or by the use of phenol sodique, a most invaluable remedy for wounds, cuts, etc., and an excellent hæmostatic.

In filling bicuspid teeth or molars, on their approximal surfaces, the cavity often extends to the edge of the grinding surface, with perhaps only the enamel intervening. Our

plan, in such cases—in most cases, in fact, when proximal fillings are required in these teeth—is to chisel the cavity open from beneath, like a mortise, slightly dovetailing or grooving the same, and then fill from beneath. We can make a better filling, and *thus* prevent the breaking of the enamel, which is almost certain to occur sooner or later when these teeth are otherwise filled.

How often we—how much too often—all of us, are requested to extract teeth, just because they are aching. Why not lop off any other member—a finger for instance—because of a sore, or any kind of inflammation? Tooth-ache is as curable, in most cases, as any other disease. Then why extract so many teeth, so recklessly, so indiscriminately, as is so often the custom? Let us teach our patients the importance of saving their natural teeth—teach them to take good care of them—to cleanse them daily, thrice daily if need be, rather than have them lost through neglect. Let them be taught to bestow the same attention to their teeth that they do to their hair, their faces, their dress, and thousands of teeth will be saved from the remorseless fangs of the forceps, and fewer artificial teeth will be demanded.

The other day a gentleman visited us, who has been a patient of ours for many years, and whose teeth have always been hard, firm and of most excellent quality, but little inclined to decay, till within a recent period. For a few months he has been a victim to dyspepsia, and his teeth now bear witness that acid has been vigorously at work, making savage inroads upon those once beautiful organs. Now they are brittle, and look as if they have had a long bath in some kind of acid. I directed him to use antacids, hoping thereby to counteract, to some extent, the destructive tendency of the fluids of his mouth. Our people need to be taught how to eat—what to eat—in order to enjoy good health and long life, and especially good teeth.

We know a man, who, as soon as his first-born was provided with a pair of teeth, presented his wife with a miniature

tooth-brush, with positive instructions that it be punctually used thrice, daily. What a noble example we have here! how worthy of imitation! how desirable that all parents should do likewise, and as urgently insist upon the regular use of the tooth-brush upon the teeth of all their children, and make it an imperative rule that as much attention shall be bestowed upon their teeth, to keep them perfectly clean, as their faces! The other day a lady brought her son to us, to have his teeth examined. We found a most beautiful set, symmetrically arranged, and perfectly clean. We spoke approvingly of the clean and healthy condition of his teeth and gums. Said she, "I brushed his teeth *daily* from the time he had two teeth until he was old enough to attend to that duty himself, and now that he has formed the habit, it is quite as natural for him to wash his teeth as it is to wash his face and hands. As children only know what they are taught, why not include this item of Dental hygiene in the programme of studies to which their minds are to be directed? Is not this knowledge quite as important to them as many other kinds for which, in many cases, they have no use in after life? Let us learn, and let us teach others to wash and be clean. Let this washing be not limited to the teeth, but extended so as to include the whole body. Dentists should see to it, that they obey this law—that their persons and clothing be strictly clean, then if they educate their conscience and keep that clean and bright, success must crown their professional efforts.

A matter of engrossing and widely spread interest, at this time, both among Dentists and the people, is Nitrous-Oxyd. Every one who has a sick tooth whose removal is fated, is anxious to take something to mitigate or prevent the pain of its extraction. Every Dentist now-a-days is expected to have a machine with which to make gas, (laughing-gas, we mean) else he is in danger of being ruled out of the ring, classed among the fossils. Well, since it is the fashion, and a necessity, to have a machine or apparatus, it is a matter of no small importance to have the *best* in the market. But

just here is the rub: whose is the best? Every man thinks he has the best wife. We really don't know. It is a question we can't decide. We are disposed, however, to think that good gas can be made on any of the many machines in the market. We are not able to decide whose is the best, Leslie's, Mosely's, Barker's, or Sprague's. We should like to be satisfied on this subject, and hope some of our scientific men will determine, by actual tests, so that we may know where to invest, to the best advantage. Expense is a minor consideration, when a life may depend on the quality of the gas made.

Well, the pain of extracting teeth is, in some cases, and to many persons, exceedingly severe; hence it is very desirable that some safe and efficient anæsthetic agent should be kept and used to relieve suffering humanity. We believe that nitrous-oxyd is the safest and most reliable one in use. Prof. Barker says, "that nitrous oxide, or protoxide of nitrogen, is worthy to be placed prominently in the list of anæsthetics, is a fact which is daily being demonstrated by many of the most prominent surgical and Dental practitioners." Yet, it is not entirely safe in all cases. An agent that is so powerful—one that takes the patient so near the spirit land—should be used cautiously and with discrimination. We think that there are conditions of the system in which it is wholly unsafe to administer the gas—that the risk is too great to justify or warrant its use. Barker says: "Where there is a tendency to cerebral inflammation, disease of heart, either functional or organic, active congestion, or acute inflammation of the brain, lungs or kidneys, the use of this agent is contra-indicated." Says he, "I should use it with the greatest caution, where there is a general plethoric condition, or where there is a tendency to the hemorrhagic diathesis." "The danger of nitrous-oxide," says he, "consists in the fact that it increases the oxidation of the fluids and solids of the body, and also acts as a stimulant to the brain and nervous system. When there exists any predisposition to



congestion or inflammation, the administration of nitrous-oxide may develop this latent tendency, and a fatal result may ensue." We suggest to our brethren that they do not rush in heedlessly, where angels fear to tread; and that they exercise discrimination and judgment in the use of this valuable, but potent agent.

To day we were thinking, indeed we have often had our thoughts run in the same vein, about cheap materials for filling teeth. We have long ago decided that there is no use in trying to stave off this subject of cheap fillings, or cheap materials for fillings. There are some cases where it would be unprofitable, to both patient and practitioner, to use gold. All teeth are not, in all subjects, worth filling with gold—supposing it could be done. All persons are not able to pay for large and difficult gold fillings. What shall we use then? I have heard Dentists say they never fill teeth with anything but gold. Then there are some teeth that they don't fill, or if they do, their fillings don't last very long. Shall we use tin foil? This may do in approximal cavities, but it will not last in the grinding surface of a tooth; being soft, it wears away rapidly, requires too frequent renewals, and is, in the end, more expensive than gold. We like gold better than anything else. The conscience of a Dentist feels better after completing a good gold filling, and he can announce to his patient his fee with more complacency and a better grace than after perpetrating any other kind of filling. Other fillings than gold, anybody can insert, just as anybody, in three weeks, can learn to mount teeth on rubber; but to make good gold fillings, or mount artificial teeth on gold, demands science, skill and high art.

We, without any hesitation, know and teach and preach to all, that gold is always, and for everybody, with some few exceptions, the *healthiest*, the *cheapest* and the *best* material for filling teeth. We do occasionally, insert and have inserted amalgam fillings, but *never* from choice, but *necessity*. We have, in our own teeth, three of the old-fashioned amal-



gam fillings, inserted twenty years ago, and they are good yet, and so are the teeth holding them. I honestly believe that, though modern Dental skill might save such teeth, there was not a Dentist in the West, twenty years ago, that could have filled our three teeth with gold so as to have saved them as perfectly as the amalgam has done. Teeth are filled now that twenty years ago would have been extracted without any remorse or hesitation. Artificial cusps, artificial halves, and in some instances, whole crowns of gold are forged out of gold foil, by the skill of the cunning Dentist, and thus made to do good and lasting service. Let us, therefore, be thankful to that master spirit who, through much ridicule, introduced to our profession, the knowledge and use of the mallet, by whose delicate and magic strokes such a revolution for good has been introduced in the art of filling teeth.



### CARE OF THE TEETH.

THE causes of decay in the teeth may be divided into two classes, viz: direct and incidental. There are two concurrent conditions or influences that generally meet to produce the former, (that is direct decay). The first of these conditions is imperfect organization. The second is an unhealthy condition of the fluids of the mouth, or contact with some of the various acids that find their way into the Dental territory from time to time, under various pretexts. Though the mineral acids are much more energetic in their action, when brought in contact with the substance of the teeth, yet acetic acid, (which results from the fermentation of vegetable substances that contain a portion of sugar), (or starch.—ED.) works by far the greater amount of mischief in the Dental organism.

A particle of food lodged about the necks of the teeth, and exposed to the moisture and temperature of the mouth, quickly undergoes fermentation, and the acid result instantly

demands its equivalent of alkali from the contiguous teeth; for the spaces between the necks of the teeth being the most convenient receptacle for the lodgment of food, is the point where this kind of decay generally makes its attack.

Sometimes, from a vitiated condition of the fluids of the mouth, and a want of the necessary attention to cleanliness, particles of food are retained between the cheeks, or possibly between the tongue and teeth, till they undergo fermentation, and decomposition, with a like disastrous result.

Sometimes the fissures that mark the grinding surface of the molars, and bicuspid, and occasionally the lingual surfaces of the incisors, divide the enamel entirely, leaving an opening by which the saccharine fluids of the mouth are admitted to contact with the bone of the teeth, thus furnishing the conditions and materials where another chemical laboratory may be run with ruinous results.

This accident of imperfect enamel furnishes almost the only condition under which decay of the teeth is likely to occur, when proper, timely attention might not prevent it, especially where the teeth possess a sound healthy constitution in other respects.

True, the teeth of children frequently decay before they could reasonably be expected to exercise the forethought and skill necessary to prevent it. In this case the responsibility justly falls on parents, who in too many instances are about as incompetent as the children.

How many among us run through the whole course of rational intelligent existence, and never occupy any higher range of mental or moral activity, never entertain any more lofty aspirations, than to know the price of stocks or produce, or the latest Paris fashions? How many are content to remain in the most profound and hopeless ignorance of the laws of the Creator in reference to their physical well-being, while their whole aim and effort is circumscribed by the narrow limits and transient interests of the present life? We will not pursue this digression further at present, than to

say that this same blind, stupid, contented ignorance is justly chargeable with the loss of a large proportion of all the teeth that are lost from decay.

We said, on a former occasion, that chemical affinity was the immediate, active, efficient agent in decomposing the substance of the teeth. This is strictly true; but such chemical affinity is only active under certain conditions of warmth, moisture, etc., and the presence of an acid or some fermentable substance whose acid reaction is capable of decomposing the substance of the teeth, (and then fermentation is accomplished, and the acid is produced before the substance of the teeth is attacked or destroyed.)

And a sufficient time for the destruction of the tooth is essential; for these operations are not carried forward with the same degree of rapidity that marks chemical action when explosive substances are brought within the range of mutual chemical influences; but, on the contrary, quite gradually, being retarded in their action, suspended, or perhaps altogether arrested by a change of surrounding conditions.

Of the incidental or indirect causes of decay in the Dental family, the range is much greater. Whatever impairs the general health while the teeth are in process of formation, affects them injuriously. Whatever curtails or interrupts the osseous development, crowds or compresses the teeth into a space too small to accommodate them all in proper position. Thus, we frequently see persons whose teeth are lapped or crossed in their arrangement, thereby affording a convenient place for the lodgment of food, and thereby effecting decay of the teeth.

General derangement of the health, even after the teeth are formed, if continued for a length of time, is certain to affect the teeth injuriously. Chills, dyspepsia, hypochondria, of long standing, especially if made the occasion for active medication, are certain to injure the teeth. Any overwrought mental excitement, such as home-sickness, dread of impending evil, or hopeless sorrow, if indulged in for

a length of time, will surely injure the teeth in the end.

Whatever undermines the constitution, preys upon the general health, depresses the spirits, or weakens the vital force, invades the sanctity of the teeth in an indirect manner perhaps, but never fails to reach the end where sufficient time is afforded. In the language employed by the founders of our federal institutions, we may truly say of the different members of the physical system, "*united we stand, divided we fall.*" It is not necessary to specify all the causes that may effect the teeth incidentally. In a word, they are as numerous and diversified as the evil influences that surround us on every hand, and at all times stand ready to overwhelm frail and erring humanity.

But, however modified or diversified the incidental causes of decay in the teeth may be, the direct and immediate cause is chemical affinity. This brings us round to the point from which we set out.

The means and methods by which the teeth may be guarded against these complex and diversified evil influences, may be stated in as concise and explicit terms as the immediate and direct cause or agency by which the mischief is wrought, viz: Cleanliness—constant, absolute, scrupulous cleanliness.

By cleanliness, we understand the entire absence of, or freedom from, dirt of all kinds. Probably no lexicographer has ever given a better definition of the word "dirt" than a professor in a Southern college, who told his class that the word dirt was not the name of any one object or class of objects, unconditionally, but applied to any and every thing that might chance to be found in the wrong place. Thus the soil is altogether proper in the field or garden, is the true basis of real estate, the area in which all agricultural operations are performed, the source whence our daily food is derived; but the moment it is found on our carpet or clothing, on our hands or face, it immediately becomes dirt, and we can make nothing else of it, only by returning it to its proper place.



And there is yet another peculiarity that it becomes necessary for us to notice in this connection. There are instances in which objects change their character, in this respect, with the change of time and circumstances. For instance, a professor of the culinary art may have the cleanest hands in the world, while preparing bread for the oven, yet at the same time they are covered with paste and flour. There is nothing improper or offensive in this while the operation lasts, but the moment it is finished, without any additional deposit on these same hands, they instantly become dirty, and so remain till the last particles of flour, paste, shortening and sweetening are removed.

And the necessity for this cleansing process prevails throughout every department of human interest, during all time. Not only our hands and teeth, but our ecclesiastical and political institutions, our fields and highways, our houses and clothing, the food that we eat, the most secret thought that finds a lodgement in our mind, or the most subtle emotion that stirs our inmost nature, demand constant, persistent, intelligent purification.

Indeed, this cleansing process appears to have formed a distinct and prominent feature in the design of the all-wise Creator, when he planned this vast and complicated terrestrial fabric. Storms purge away from the atmosphere the pestilential and poisonous vapors that would otherwise destroy animal life. Pestilence thins over-crowded, and, consequently, excessively filthy communities. The Asiatic Cholera has been styled as chief of staff on the Almighty's sanitary commission. Throughout the entire range of human observation this purifying process is continually going on both in communities and individuals, and whenever offenders are permitted to go "unwhipt of justice," wherever injustice or impertinence goes unrebuked, where any wrong remains unrighted, where an individual abandons himself to the control of any vicious habits, or sits down content to let matters take their course, right or wrong, there we mark the advancing footsteps of decay and death.



The first and most important, among the means and methods by which the teeth may be kept in a clean and healthy condition, is exercise or use—the mastication of an amount of food appropriately selected and prepared to meet the wants of the organization or individual to which they pertain. Perhaps nothing more than this would be necessary to secure the health of the teeth in an individual whose present health was perfect, whose habits were unexceptionable, whose physical constitution, even to the arrangement of the teeth, was faultless, whose intellectual development was all that the Creator intended, and whose moral and social relations were only sources of hope, without a doubt or fear, and happiness without alloy. But where shall we find the individual thus favorably circumstanced and constituted? We ask, and pause for a reply.

Our ignorance of a fact does not suppress its reality—does not annihilate it. Ignorance of danger has no power to elude its pursuit, or parry its attack. In a word, ignorance on any point is weakness,—invites and facilitates the approach of danger, and embarrasses the efforts of those who would seek to secure their own safety.

It is nothing unusual that persons possessing a fair share of intelligence in ordinary affairs, but who have not bestowed any especial care on the preservation of their teeth, suppose them all to be perfectly sound, until decay has effected a breach in the “citadel of life” of one or more of these organs. The first condition to success in any enterprise, is a full and clear understanding of the whole matter in all its relations and dependencies.

When the teeth are to be cleansed, it is important that we first know whether they are decayed, whether they require to be freed from deposits of tartar, or whether it is only necessary to brush away the fragments of our last meal that may have been left about their necks while eating.

A good elastic brush, or tooth-pick, or both together, followed by a mouthful of water, forced between the teeth by

the motion of the lips, cheeks, etc., are all that will be required where nothing more is necessary than to remove the fragments of food from sound and healthy teeth and gums. But a brush and pick are altogether inadequate to the removal of tartar, where it has remained long enough to become hard, though nothing more would be necessary while the deposits remain soft.

In favorable cases, a few moments every day employed in well-directed attention to the teeth, would be quite sufficient to secure them in the desired condition. There are other cases which, if found in the mouth of the most skillful and competent Dentist, would tax his skill, patience and perseverance to the utmost, together with the highest professional aid he could procure, to bring about the desired conditions.

If the teeth are foul with deposits of tartar, several steel instruments, triangular, sharp, curved or straight, will be required for its removal, and like all other operations requiring some degree of handicraft skill, it is more readily, more comfortably, and more effectually accomplished by a hand trained to the performance of kindred tasks; though any individual having good use of his hands, and provided with the instruments that are necessary, and endowed with a due share of patient, intelligent perseverance, may practice on his own teeth with advantage, especially in simple cases where the disease has not progressed too far. The greatest danger to be apprehended from this home treatment arises from the fact that inefficient or misdirected efforts may lull the apprehension of the patient into a fancied security, cause him to relax his vigilance or suspend his efforts, and thus permit the disease to run its course, and thus accomplish the destruction of the teeth. For there is no disease to which the teeth are liable that will more certainly destroy them than this, when permitted to take its natural course.

There is one more condition to success, and that is, determined, persistent, intelligent effort under the guidance of enlightened judgment.

While ignorant effort exhausts itself in bootless strife to accomplish something beyond its reach, the most complete, thorough and explicit knowledge is unprofitable and vain until it assumes the guidance of earnest, patient labor.

In the common affairs of life it is hard to say which is the most prolific source of failure, ignorance or indolence. Where they combine together, they absolutely cut off all hope of improvement, or chance of success.

Wisdom or intelligence seldom comes to us unsought. The Creator has endowed us with an aptitude, a capacity for the acquisition of knowledge, and has thrown around us, in the largest abundance, the materials wherewith to fill that capacity. But still we may not gather up and appropriate to ourselves the rewards and benefits of knowledge, without an effort on our own part. Were we perfect and upright in all respects, and assured against error and depravity, we might sail down the stream of life without thought or danger.

But such is not the fact; and while the price of liberty is eternal vigilance, so physical health in general, and sound teeth as well, can only be secured by a careful and constant compliance with the terms on which our physical and physiological conditions are dependent.



## IMPROVEMENT IN ARTIFICIAL TEETH.

BY JOHN C. K. CROOKS, M. D., BIRMINGHAM, MICHIGAN.

NOTWITHSTANDING the great artistic skill attained in the manufacture of artificial teeth, in which the material, form, color, etc., have been brought quite to a state of perfection, still, since the almost universal adoption of vulcanized rubber as a base, there have been several very important

things needed, in order to fully meet the requirements of the profession, and to elevate the character of this particular kind of work. In these remarks, I refer more especially to that great need felt by the entire profession of a tooth *embodying a greater amount of strength*—a tooth that will correspond more nearly with the strength of the plate upon which it is inserted. That the teeth manufactured at the present day, for rubber bases, are more frail than those used a few years ago, so generally, upon metallic plates, is universally noticeable, so much so, that no one would now pretend to insert a *single* tooth upon rubber and expect durability, unless he used the old plate teeth, properly backed, etc. Such certainly has been my experience, and such is the advise of those who are known to aim at a high standard in their profession. Now, in what does this difference consist? Our manufacturers are the same, the materials they use have undergone no change, there is undoubtedly all of the old care and pains-taking in their manipulations; where then is the difficulty? I answer, unhesitatingly, *it is in the form and kind of fastening used—the pins being inserted transversely instead of vertically.*

In the use of rubber as a base, it early became a *necessity* to have teeth with the pins arranged transversely, in order to get sufficient strength of rubber and at the same time not expose the pins in finishing, or unduly increase the thickness of the plate. This having been the case, the manufacturer has been compelled, thus far, to furnish teeth for the profession, many of which were nearly *worthless* on account of the almost literal severing of them by this transverse insertion of the pins. A set of plain or single gum teeth may be completed to-day, and to-morrow our patient may return with one or more fractured—not the molars, nor the bicuspid, unless they are very small, but generally the *lateral incisors*, or it may be the *central* or the *canine*, and then *invariably at the point where the pins are inserted into the teeth!* Such

was not the case with the old vertical pins; neither is it so now, even in teeth of the smallest sizes. Then, why should this frailty *now* obtain, unless there is something radically wrong somewhere, and *that* the defect already pointed out. That this is the difficulty there cannot be the shadow of a doubt; and if so, what is the remedy? To answer this question to the satisfaction of all, to meet the demands of the profession, our manufacturers of teeth have exhibited commendable zeal, and in trying to do so myself, I cannot but feel the importance of the undertaking and the embarrassment attending it; for I am well aware that however much a remedy may be a pet idea with its originator, or however much he may conceive it to be perfect, yet that great test of value, *actual use*, may prove it to be worthless. Whatever I may have to say, then, in commendation of my device to increase the strength of teeth for rubber bases, is said only with the *hope and belief* that it is a *step* in the right direction.

In experimenting upon this subject, I availed myself, in the beginning, of this important hint, that *teeth with vertical pins possess the greatest strength and are better adapted to all purposes for which they are designed than any others*. Bearing this idea prominently in mind, the query arose, how can a "fastening for artificial teeth" be arranged, so that the "teeth portion" may have its greatest diameter correspond to the greatest diameter of the tooth, (longitudinal), while the "rubber portion" may stand horizontally to the plate? With this inquiry, there also arose the consequence of a desire, which might enable the Dentist to replace broken teeth with facility and with permanency.

To meet these two important objects had in view, I hit upon a fastening in the form of an eye—like the eye to a button—said eye being made of platinum wire and provided with a double shank, (the ends of the wire) and so bent that the greatest diameter of the shank is at right angles to the plane of the eye, the eye being as large as the smaller teeth



will allow. Then, to still further preserve the material in the transverse diameter of the tooth, and to thus add to its strength, I flattened the ends of the wire constituting the shank, so that its minimum flattening was a little way from the eye, and the maximum at the extremity of the shank, making it fan-shaped, and thereby dovetailing it into the substance of the tooth. With this device, we can readily see that we have more than met the first object in view—a vertical insertion of the pins into the tooth, and by elongating the eye, making it in form like a staple, we can easily furnish a way to repair broken teeth, by cutting a mortice into the plate and securing the tooth by a vertical pin.

The value of this invention applies to all kinds of teeth for rubber bases, of course, for purposes of repair, but it is sure more particularly in single, plain or gum teeth, where it is of the utmost consequence to have all the strength of the tooth preserved. In the insertion of single teeth, and in those cases where, from the prominence of the jaw, it is necessary to use plain teeth—cutting away the plate and inserting the teeth with the upper extremities applied directly to the gums, the value of the eye attachment cannot be estimated. The fastening into the rubber is immovable, while the increased tooth substance, transversely, greatly enhances its strength—indeed, it may almost be said an hundred fold, when we consider how nearly divided are the smaller teeth by the fastening in use at the present day.

With the above description of my device for the “improvement of artificial teeth,” I leave the subject for the consideration of an intelligent and charitable profession. That it meets *every* demand, I do not for a moment pretend. If it contains one idea of value, I am satisfied. Although protected by letters patent, it is free to Dentists *everywhere*, to be used in their own laboratories and for their own purposes.

For a further description, I refer the reader to the accompanying drawings and explanations :

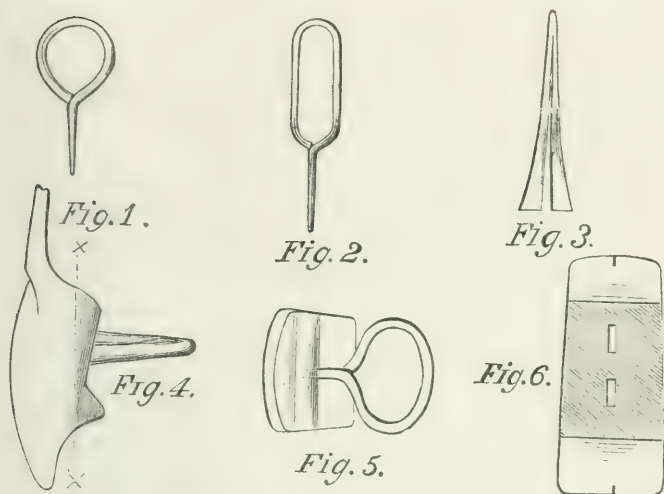


Fig. 1. The ordinary form of the eye as inserted into the tooth by the Manufacturer.

Fig. 2. An eye elongated by the Dentist for the purpose of repairing by inserting into a mortice cut into the plate and retained there by a vertical pin of silver or platina wire.

Fig. 3. An eye with the shank flattened at the extremity to further strengthen the tooth in its transverse diameter and to obtain a dove-tailed hold in the tooth.

Fig. 4. A side view of a tooth showing the vertical position of the double shank in the body of the tooth or eye for insertion in the base.

Fig. 5. A top view of a tooth for the same illustration.

Fig. 6. A vertical section taken in the line X X Fig. 4, showing the vertical position of the shank.

## ADDRESS

OF DR. GEO. L. FIELD, UPON RETIRING FROM THE PRESIDENCY  
OF THE MICHIGAN STATE DENTAL ASSOCIATION,  
AT ADRIAN, JANUARY 22D, 1867.

*Gentlemen of the Michigan State Dental Association:*—In accordance with a custom of this honorable body, it now becomes my duty, as the retiring presiding officer, to deliver before you my valedictory, or farewell address. First thanking you for the honor you have done me, by according to me so honorable a position, and for the lenient manner in which you have looked upon my short-comings in this, to me, novel position, and for the hearty support which you have given me in my endeavors to fulfill those duties devolving upon the office, I will earnestly, and as briefly as possible, say a few words.

Another year has now been numbered 'mid the past, since last we met together in friendly concert to discuss such matters as might come before us, having for their end and aim the good of ourselves and the good of others, in a Dental specialty.

By the good Providence of the Lord, we are again permitted to assemble for the same purpose, and I most sincerely hope that each and every one of you have brought with you some of the fruits of the seed sown one year ago, that we may together judge of its entire worth to *ourselves*, which is equivalent to the good of mankind at large. Let none be afraid to speak, and speak boldly. Some one may have, as he supposes, some *little* new idea, so small indeed that he may not think it worth the mentioning, and yet *that very little thing* may be the key to open the doors of some firmly closed vault in which is hid a mine of wealth. All men are differently endowed. No two minds are exactly alike. All minds are capable of receiving truth, some to a greater and others to a less extent. A man is not the *originator* of *any* new idea. To some this may seem a bold assertion, it

is, nevertheless, a *true* one. You may think it hard to be told that, after the labor of days, months, or even of years, upon some piece of mechanism, which shall have, upon its successful completion, a great and good end, conferring a great blessing upon mankind, you were not the *real* and *alone* originator. And yet I say, that it is *true*, you are *not*. All improvements, all new ideas, all truth, all *good*, have but one fountain head, and that is *God*. Our minds are but the recipients, or mediums, through which they flow down from *Him*, to this world for the benefit of *all* men. Some men's capacities for receiving these things are greater than others. To some have been given one, to some five, and to some ten talents. It is the *use* that we put these gifts to, that shall qualify the mind; and woe to him that *buries* his in a napkin. To him that little is given, little will be required. This, gentlemen, I mean to apply to him who, having received some new truth or light, shall keep it to *himself*. It is not his own; and if he does not give it to the world, he appropriates to *himself* that which only, in *part*, belongs to him. From how small a thing was deduced the great fact that the world was round—the simple fall of an apple. The seed there sown fell in such soil as was especially adapted to it. Ten thousand men equally as smart as Newton might have stood under an avalanche of them, and nothing more would have occurred to them but that “self-preservation is the first law of nature,” and hurried from the spot to save themselves from a premature interment. Speak out then, I say. Let others be the judge as to whether that little offering you lay upon our common altar is of use. You, then, have done *your* duty. We may ponder and investigate as long as we please, and yet we can go but *so* far, and no further. We all know that the blood circulates through the arteries and veins of the body; we know that that circulation is produced by the expansion and contraction of certain muscles of the heart; but who can tell *why* those muscles perform such functions? We know that when they cease

to do so, death follows. You know that when an acorn is dropped into the ground a great oak of the forest will come forth from the little shell. Can you tell us why? or two acorns that, to us, may look exactly alike, will bring forth different species of oak, but never, by any possibility, bringing forth any variety but that to which it belongs? The life of a tree comes from the only source from which life *can* come. Little do we know of what influences surround us at all times. In this very room where we are now congregated there is first the atmosphere that we breathe, composed of oxygen, carbon, hydrogen, azote and many other gases; there is light with its variety of colors; there is gravitation connecting us with every orb in the solar system; one cord binding us to the sun, another to the moon, etc. There are electricity, magnetism, galvanism, and many other agents, doubtless, of which we, as yet, know nothing. All are here around us, and yet we never should have known it, but for the deep researches of scientific men—men who, when they took hold of any one given subject, took hold with a *will*, sifted to the bottom. Deep study and application has given us the power of conversing with a friend thousands of miles distant—the agent, electricity. Could Morse or Franklin tell us what that subtile fluid is that they have brought so perfectly under their control? Science has revealed the fact that our Nation's flag, the Stars and Stripes, (God bless it), is *really* an emblem of *liberty*, for its colors are those contained in that first of all God's gifts to man, i. e., the atmosphere we breathe; the composition of which is, air, aura and ether. Aura is red, air is white, and ether is blue. Who will wonder then that the very breezes should seem to love to kiss its graceful folds as it waves triumphantly over this land of freedom and liberty.

In Dentistry we are but in our infancy. We have a broad field before us. It has been plowed, and we have reaped rich harvests for our labor. But it must be plowed much deeper. We began by replacing, by artificial substitutes,



those organs of mastication disease had destroyed. Then a step higher was taken,—we bent our energies to the task of preserving those pearls from *total* destruction, when disease had but partially destroyed them ; but our ultimate end and aim must be to preserve them *from* all disease. It may be, and probably will be, a long time ere we reach such a desideratum. You and I may not see the day, but it will come, and for the good of mankind we can but say “God speed the day.”

One other matter I wish to call your attention to, and strongly urge upon your earnest consideration, and that is, the inviting manner in which the *latch string* to this Society is left hanging out. All that is now necessary for any one to gain admittance to assemblies, is to hang a shingle out some where, then step forward, pull the string, pay for his ticket, come in and fall into the arms of those on the inside waiting for him. Now this is all wrong. I opposed it last year, and shall oppose it this, and always. We must all be able to see what must inevitably be the result of such laxity. This is no school of probation ; neither is it one where the rudiments of our profession are taught. There must be a line drawn, and the higher the better, and those who come knocking for admittance must be able to come up to it before being admitted to membership. We took a step forward last year in regard to the reception of students into our different offices in the future. Now let's take a step forward in this matter. It is not the profession or calling that makes the man, but the reverse. And yet I hope to see the day when the simple fact that a man is a *Dentist*, shall confer a certain amount of *dignity* upon him. This can only be done when the walls shall be built so high about us that none can scale them, but must of a necessity pass through the proper door, where strict sentinels shall stand guard, exactingly demanding the magic pass-word, which alone shall admit them as members of the Dental profession ; and that pass-word shall be written upon parchment, signed by the Faculty of some *Dental College*.

The fact that so many incompetent and unprincipled men are now allowed to humbug, without limit, the public at large, by pretending to that of which they know nothing, has been the means, to a certain extent, of dimming the lustre of those who are an honor to themselves and to their profession. A movement should and must be made to bring about a reform. Our brethren of Ohio have begun the work by an appeal to their State Legislature for protection from the further flooding of their fair State by these charletans and quacks. Let us then awake from our lethargy, buckle on our armor, and in solid column march to the front; then by direct assault, and by the flank, deal such blows as shall soon clear the way for the onward march of light and truth. Keep up that knocking at the door of our State University already commenced, and make an appeal to *our* Legislature for *their* assistance in the matter.

There are many other things on which I should like to speak, but I feel that I have already drawn too deeply upon your time and patience; they will all, probably, be taken up, one by one, discussed and disposed of ere the close of our session. Offering you my apologies for the short-comings of this, my *first* valedictory, for I feel that it is sadly deficient in that which it should contain, trusting that you will still extend that same charity towards me that you have from the time I took this seat, I will, as your President, say farewell.



### CASE OF ACUTE TRIFACIAL NEURALGIA.

BY H. C. BARTLESON.

DEAR REGISTER:—I report the following case because I have never met with another precisely similar.

May 15th—A young lady called who was suffering from an alveolar abscess of considerable size, situate at the roots of the first right superior molar. She was of nervo-sanguine

temperament, strumous diathesis, and somewhat anemic. The pain was remittent—during the exacerbations shot along the floor of the orbit, and frequently was frontal and temporal. With some difficulty, owing to their decayed condition, I succeeded in extracting the roots, which was followed by discharges of pus, which led me, notwithstanding the neurotic symptoms, to promise complete relief from pain in a few hours. Only prescribing a topical application of opii vinum.

Four days after she returned with intense intermittent pain in the course of the right superior maxillary and ophthalmic division of fifth pair. Augmented heat was apparent in the supra and infra orbital and temporal regions.

The conjunctiva was deeply congested, particularly below the cornea, and epiphora occasioned much annoyance. Mild coryza of that side of nasal passages existed. Symptomatic febrile movement was noticeable.

These symptoms, she said, developed immediately after her last visit, and had been constantly increasing.

But little pain was referred to the situation of the abscess, and the locality had the appearance of a rapid return to the condition of health.

A leach applied to the temple was attended with relief. Tinc. acconiti, chloroform, vinum opii, was directed topically, and pulvis Doveri was prescribed. Doses to be repeated at proper intervals until sleep or an immunity from pain was secured, unless troublesome vomiting intervene<sup>d</sup>.

A cathartic, for existing constipation, entered also into the treatment.

Complete relief from pain was obtained shortly. Refreshing sleep that night was enjoyed the first time for a long period, which was followed by non-continuance of violent paroxysms and rapid improvement.

For the anemia:

Ferri et quinia citras, gr. c.

Syr limonis, ʒ xx.

A teaspoonful to be taken twice and afterwards three times per diem.

The topical application was continued until all pain and soreness disappeared, which was about the sixth day from the time of her second visit. The congestion of the conjunctiva was constantly decreasing for about three weeks. Have seen the patient often since, and there has been no recurrence of any of the symptoms.

There is marked improvement in the general condition. In another case would prefer one of the salts of morphia, for the opiate treatment, to the Dover's powders, although a slight emesis which followed its use was not contra-indicated. I attribute temporary anorexia to its effects.

The ready yielding of the symptoms to such mild measures was gratifying, and but little expected.

In the diagnosis, inflammation of antrum of Highmore, was excluded by the character of the pain, by the absence of continued soreness in that situation, and by the fact that no perforation of that cavity existed.

## Proceedings of Societies.

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### THE THIRD SEMI-ANNUAL MEETING OF THE CENTRAL STATES DENTAL ASSOCIATION.

THE third semi-annual meeting of the Central States Dental Association was held in the city of Memphis, Tenn., on Tuesday, Wednesday, Thursday and Friday, the 9th, 10th, 11th and 12th of April, 1867.

The committee of arrangements and reception having procured the use of the Casina Hall, on Adams street, the Association was duly called to order at four o'clock, P. M., by the President, Dr. W. G. Redman, of Louisville.

The roll was then called, and the following members answered to their names:

W. G. Redman, *President*, Louisville, Ky.

W. H. Shadoan, *Secretary*, “

W. H. Morgan, Nashville, Tenn.

W. F. Southern, Memphis, Tenn.

Alex. Hartman, Murfreesborough, Tenn.

F. W. Garkey, Memphis, Tenn.

R. Russell, Nashville, Tenn.

G. W. Acree, Memphis, Tenn.

The constitution and by-laws were then read, after which the minutes of the last meeting were read. The society being duly organized, the executive committee made the following report, which was adopted:

#### SUBJECTS FOR DISCUSSION.

1. In filling teeth, what are the points to be observed to secure success, and what are the requisite qualities of materials for filling teeth?

2. Why, and how is decay sometimes arrested without the aid of the Dentist?



3. What is the nature of sensitive dentine? its variations and treatment?
4. What principles are involved in the treatment of Dental periostitis?
5. What are the successive steps in the formation of Alveolar Abscess?
6. What is the process of absorption in living organic tissues?
7. By what means is lost tissue restored?
8. In what does a hemorrhagic diathesis consist?
9. What is the treatment of Alveolar hemorrhage?
10. Irregularities, causes, and treatment?

J. TAFT,	} Executive Committee.
S. DRIGGS,	
E. W. MASON,	

The following applications for membership were then read by the Secretary, and referred to the committee:

Dr. L. C. Chidsholm, Tuscumbia, Ala.

“ J. M. Cameges, Brownsville, Tenn.

“ J. B. Wasson, Memphis, Tenn.

“ H. M. Acree, Clarksville, Tenn.

“ E. W. Sawyer, Memphis, Tenn.

“ S. H. Smith, “ “

“ S. P. Cutler, Holly Springs, Miss.

“ J. C. Harris, Memphis, Tenn.

“ A. Wesson, “ “

“ W. T. Arrington, Memphis, Tenn.

Adjourned to meet in Dr. Arrington's office at 7½ o'clock, P. M.

#### FIRST DAY—EVENING SESSION.

The Society met pursuant to adjournment. Minutes read and approved.

The committee on membership made the following report, which was adopted:

“We, the committee on membership, would respectfully

recommend the following named gentlemen to the Society as eligible to membership:

L. C. Chidsholm, J. M. Cameges, H. M. Acree, E. W. Saywer, Wm. T. Arrington, S. P. Cutler and J. C. Harris.

The committee would ask further time on the following names: Drs. Smith, Wasson and Wesson, these gentlemen not being present.

G. W. ACREE,  
W. H. MORGAN, } Committee.  
F. W. GARKEY.

A ballot was held, and those recommended by the committee were found duly elected.

On motion, it was resolved that the sessions, during the meeting, be held as follows: From 9 A. M. to 2 P. M., and from 3 to 6 P. M. Evening sessions at 8 o'clock.

On motion of Dr. Shadoan, it was agreed that Operating Clinics be held from 11 to 1 o'clock each day. Drs. Shadoan and Arrington were appointed by the President to operate to-morrow. Drs. Russell and Hinson very magnanimously proffered themselves as subjects for the occasion.

On motion, a select committee of three was appointed by the President, consisting of Drs. Morgan, Garkey and Arrington, to examine new appliances, and report their investigations.

Adjourned to meet in this office at 9 A. M. to-morrow.

#### SECOND DAY—MORNING SESSION.

Minutes read and approved.

A letter was read by the Secretary from James J. Brooks, of Trenton, Tenn., which called for the following resolution:

"Be it resolved by the Central States Dental Association, that all applicants for membership must present themselves in person, when, if found eligible by the committee on membership, their names will be voted upon by the Society."

The resolution was unanimously adopted.

The first subject for consideration was then taken up and discussed.

Dr. Chidsholm—Prepares his cavities in the usual manner. Prefers soft foil, and uses it in various forms. If, in excavating a cavity, he is liable to expose the nerve, he always leaves that portion of decay just above the pulp. Believes that when a good filling is inserted, thereby excluding the fluids of the mouth, there will be no further progress of decay.

Dr. Russell—Always shapes his cavities so as to retain a filling by mechanical adaptation. Uses soft gold foil and hand pressure. Prepares his foil in cylinder form. Inserts them on end, with lateral pressure to walls, and fills to the centre. Introduces a small gold wedge or two in the central cylinders.

Dr. H. M. Acree—If confined to any one particular preparation of gold, would prefer soft foil, but thinks he can do better operating by using them alternate, as his judgment may direct. Believes in filling fangs when circumstances attending the case are favorable, but does not approve of filling the apex with cotton and creosote, as is the practice of many.

Dr. Shadoan—Uses adhesive foils exclusively, with mallet pressure. Secures a firm base and builds from the bottom up. Advocates contour fillings. If confined to any one preparation of gold, would prefer adhesive foil. Thinks an operator can serve his patrons more faithfully by the adhesive foil and mallet than in any other way. Prepares his gold in pellet cylinder form, and always passes it through a spirit flame just before using it. Advocates fang filling, and invariably uses cotton and creosote at the apex. Fills thoroughly the whole fang with the mallet, if he can. Uses the file freely.

Dr. Morgan—Makes free use of the file, and after removing the amount he thinks requisite, proceeds, with chisels and excavators, to shape his cavity in such way as to retain the filling by mechanical adjustment. Thinks it a good idea to dampen each cavity with creosote before filling. Has used carbolic acid with success in allaying sensitive dentine. Uses

soft gold foil and hand pressure. Sometimes anneals his gold before using. Invariably relies upon the expansive property of his foil to secure firmness, and not its cohesiveness. Does not like adhesive foils for general use.

Dr. Arrington—In preparing his cavity uses the file freely until he secures a firm wall, after which proceeds in the usual way to prepare for filling. In proximal cavities always secures three or more retention points—two in the cervical wall, one in the coronal, and if possible, one in the lingual. Uses soft foil as a base, and builds out with annealed foil, and the mallet, whenever the case will admit. Believes there are some proximal cavities that cannot be successfully filled with the mallet. Does not believe in an exclusive mode of practice, but in combining all that is good and rejecting the bad. Advocates fang filling, and never extracts a tooth if chances are in its favor. Thinks it best always to take proper time and pains to accomplish a good operation, even if the patient is not able to pay its true value.

The hour for the Clinic having arrived, the subject under consideration was laid over, to be continued in the afternoon session.

Drs. Arrington and Shadoan, according to appointment, operated as follows: Dr. Arrington filling the left superior, second bicuspid posterior proximal surface. Dr. Shadoan, the first left superior bicuspid, anterior, proximal and fang cavity. Both using annealed gold and mallet pressure.

Adjourned to meet at Dr. Arrington's office, at 3 P. M.

#### SECOND DAY—AFTERNOON SESSION.

Minutes read and approved.

The committee on membership reported the names of Drs. J. A. Arrington and S. A. Smith, who were duly elected.

The first subject was again taken up and discussed freely by several members, during which very many original, but sound ideas were suggested as to the "points to be observed to secure success," and "the requisite qualities of materials

for filling teeth." Gold, however, was agreed upon as the only fit material for general use.

On motion, the Society adjourned to meet at the office of Dr. Harris, at 7½ P. M.

SECOND DAY—EVENING SESSION.

The Society met according to adjournment. Minutes read and approved.

The committee on membership reported favorable on the applications of Drs. Hinson and Wasson, whereupon, by ballot, they were duly elected.

Dr. S. P. Cutler, of Holly Springs, Miss., then exhibited, by the aid of his very powerful microscope, several interesting specimens of Dental structure, all of which he explained briefly. Dr. Cutler manufactured the instrument in his Dental office, at Holly Springs, during the war, and having obtained a magnifying power far above any microscope yet known to the profession, he hopes to throw much light upon the subject, and make satisfactory investigations upon such points as have heretofore been questioned.

Dr. William T. Arrington offered the following resolution, which was unanimously adopted: *Resolved*, that we tender a vote of thanks to Dr. Cutler for the very valuable and highly instructive information given us on the subject of microscopy. And, whereas, there are many disputed points on the subject of Dental structure, and we, the members of the Central States Dental Association, feeling ourselves highly benefited by the views put forth in the late numbers of the *Dental Cosmos*, under the head of microscopy of the teeth; therefore,

*Resolved*, That a committee of three be appointed, whose duty it shall be to furnish Dr. C. with such teeth of the various races as will enable him to prepare interesting specimens for exhibition at our next stated meeting.

Drs. W. H. SHADOAN, }  
H. M. ACREE, } *Committee.*  
F. W. GARKEY. }



The meeting adjourned to meet at Dr. Garkey's office tomorrow at 9 A. M.

### THIRD DAY—FORENOON SESSION.

The Association met pursuant to adjournment. Minutes read and approved.

The committee on membership presented the application of Dr. Wesson for ballot, whereupon he was elected a member of the Society.

A committee of two was appointed by the President to nominate delegates to the American Dental Association, at Cincinnati, in July next.

Drs. W. H. MORGAN, } *Committee on*  
W. T. ARRINGTON, } *Nomination.*

The following resolution was then offered by Dr. Chisholm, and unanimously adopted:

Whereas, there are various forms of gold for filling teeth, and the Society having agreed that it is the best material yet known to the profession,

Be it *Resolved*, That an expression of this meeting be taken upon the use of soft or non-adhesive foils. *Second*, adhesive and non-adhesive together, *Third*, adhesive foils alone. A vote was then taken, which resulted as follows, viz:

Those who use soft foil exclusively, are Drs. Redman, Hinson, Southern and Russell. Those who use soft or adhesive gold, as circumstances indicate, are Drs. Morgan, Acree, Sawyer, Arrington, Wesson, Smith, Garkey, Harris, Chisholm, Wasson, J. A. Arrington, Cameges and Acree. The vote then being taken on adhesive foil alone, Dr. Shadoan was the only one found to advocate its exclusive use.

Recapitulation—Soft foil, 4; soft and adhesive, 13; adhesive, 1.

Dr. Shadoan's solitary vote on adhesive foil produced laughter, which called forth the expression that he would rather vote alone than with the *second class*, as he did not think that any Dentist could arrive at any great degree of

perfection in filling if he is constantly changing from one kind of material to another.

A committee of publication was then appointed by the President, consisting of Drs. Arrington, Morgan and Cutler.

On motion, the eighth subject, "in what does a hemorrhagic diathesis consist," was taken up and discussed. After which the Secretary read an essay from Dr. H. S. Chase, of Iowa City, on the subject. A vote of thanks was tendered Dr. Chase, and the essay referred to the committee of publication. The subject was then dismissed and miscellaneous business taken up.

On motion of Dr. G. W. Acree, the subject of Dental ethics was taken up, and after much being said, Dr. Morgan covered the whole ground by saying that true Dental ethics consists in being an honest man and a true gentleman under any and all circumstances. The hour having arrived for clinics, a recess was had until 1 P. M.

Dr. Garkey presented two very interesting subjects to the Society from the hospital. One a re-section of two-thirds of the inferior maxillary, resulting from tertiary syphilis. The other, a polypus of antrum and nose. These two patients had been operated for a few days previous and are now doing well.

Dr. Redman's automatic condenser was exhibited in connection with some few other appliances.

At 1 o'clock the meeting was called to order, and the President appointed the following essayists:

Drs. Chisholm, H. M. Acree, S. P. Cutler, W. T. Arrington, Cameges and Sawyer.

The committee on membership reported the name of Dr. W. M. R. Johns, of Sumerville, Tenn., as an eligible person for membership, whereupon he was unanimously elected.

Dr. Morgan then offered the following resolution, which was adopted:

*Resolved*, That a committee of three be appointed by the President, whose duty it shall be to petition the Legislature

to pass an act regulating the practice of Dentistry in the State of Tennessee, thereby excluding quackery. Said act or bill to be drawn up by the committee and referred to the Legislature.

Drs. Morgan, Fouche and W. T. Arrington were appointed the committee.

Dr. Hinson then exhibited an obturator made of English hard red rubber, which was perfectly flexible, and had been giving satisfaction to the patient for eight months. Articulation much improved.

Adjourned to meet at 3 P. M.

THIRD DAY—AFTERNOON SESSION.

Minutes read and approved.

The President then appointed Drs. McClellan and Canine, of Louisville, an auditing committee.

The committee on new appliances then made the following report:

Dr. W. G. Redman, of Louisville, Ky., has presented an automatic plugger, or condenser, for consolidating gold fillings, and after thoroughly investigating the merits of this instrument, invented and manufactured by Dr. Redman, *Resolved*, That it is truly effectual, and the most practical instrument of the kind yet known to the Society, and we would respectfully recommend it to the Dental profession, and suggest that the Society take steps towards its general introduction and use.

F. W. GARKEY, W. H. MORGAN, WM. T. ARRINGTON,	}	<i>Committee on appliances.</i>
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The committee on nomination made the following report of names as delegates to the American Dental Association, to be held in Cincinnati, in July: Drs. S. P. Cutler, F. W. Garkey, Wm. T. Arrington, H. M. Acree, G. W. Acree, R. Russell, E. W. Sawyer, J. A. Arrington, Alex. Hartman, S. Hinson, W. H. Shadoan and J. Fouche. All of whom were duly elected delegates to the Association.

On motion, the Secretary then read the code of Dental Ethics adopted by the Ohio State Dental Association last summer, and proposed at the last July meeting of this Society as an amendment to the constitution. Code referred to is nearly identical with that adopted by the American Dental Association at its last meeting, in the city of Boston. No further action being taken upon the subject, as it is still pending as an amendment.

Adjourned to meet in this office at 7½ P. M.

#### THIRD DAY—EVENING SESSION.

The Society met pursuant to adjournment, with all the members present.

This having been the evening set apart by the Dentists of Memphis for a social entertainment, it was explained by the President and all business postponed until to-morrow. Good music was part of the evening's entertainment, interspersed with wit and good humor. Very many appropriate toasts were drank, and ample justice done the delicious viands prepared for the occasion. Adjourned at 12 o'clock, to meet at Dr. Wasson's office to-morrow at 9 A. M.

#### FOURTH DAY—FORENOON SESSION.

The Society was called to order by the President. Minutes read and approved.

The committee on membership recommended the names of Drs. William Wasson and W. C. Willard, and upon balloting they were elected members.

Several subjects of interest were briefly discussed.

Dr. Shadoan offered the following resolution, which was adopted:

*Resolved*, That the President appoint the following committees:

First. A committee on microscopy.

Second. Why and how is decay sometimes arrested without the aid of the Dentist? What is the principle?

Third. Chemical changes produced in rubber by vulcaniz-

ing, and its probable results when brought in contact with the tissues of the mouth.

The following committees were then appointed:

Drs. S. P. CUTLER,	}	<i>Committee on Microscopy.</i>
J. TAFT,		
J. C. HARRIS.		
Drs. J. A. ARRINGTON,	}	<i>Committee on Decay and its arrest.</i>
S. DRIGGS,		
W. H. MORGAN.		
Drs. F. W. GARKEY,	}	<i>Committee on Vulcanite Rubber.</i>
McCLELLAND,		
COBB.		

The President then made a few appropriate remarks and adjourned the Society, to meet in the city of Louisville during the Christmas holidays.

W. H. SHADOAN, *Secretary.*

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### WANTED.

THE February and March numbers of the current volume of the DENTAL REGISTER have become exhausted, and we are anxious to obtain a few copies. Any persons having these numbers who will spare them, will please forward them to us by mail immediately, and we will either pay for them, or return any other number, as the parties may desire.

J. TAFT, *Publisher.*



## Editorial.

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### AS FUNNY AS EVER.

WE have a taste for the comic. Those whose actions are droll, while their looks are serious, always afford us solid enjoyment. But a funnier and more enjoyable class of comic actors are those that *feel* intensely serious while performing acts the most ludicrous. The more comic their deeds, the more sanctimonious and self-satisfying are their emotions. They are the happiest mortals in the world, too, except the few who are happy enough to laugh at their drollery.

At the fourth annual meeting of the Odontographic Society of Pennsylvania, "on motion of Prof. McQuillen, the following resolutions were unanimously adopted :

*Resolved*, That the members of this Society, having carefully considered the Code of Ethics adopted by the American Dental Association at the last annual meeting, respectfully decline to accept the same.

*Resolved*, That while pleased to receive *suggestions* from the American Dental Association, the members of this Society do not recognize in the Constitution of the Association the right of that body to dictate terms to the local societies, either with respect to theory, practice, or ethics, or to deny the right of representation to societies which may decline to adopt what has been agreed upon in such directions by that organization."

The first resolution has nothing peculiar in it. If a child "respectfully decline" to eat its dinner, there is an end of the matter. An appetite could not be readily forced into it. If the members of the Odontographic Society after having "carefully considered" the golden rule, should "respectfully decline to accept the same," the American Dental Association proposes to just go on and fulfill its mission, without a thought of a crusade against the Odontographics.

But the second resolution intimates that the members are possibly pleased to receive "*suggestions*" from the American Association.

O don't, Ographics! that's too condescending! Don't you know that your great factotum simply tried his "'prentice hand"

on the American Association, but had set up as a boss workman before he made you?

"Pleased to receive *suggestions*" is good.

But "the members of this Society do not recognize in the constitution of the Association the right of that body to dictate terms to the local societies." That is better; for when did the Association pretend to dictate about anything but its own business, and its own membership. But as the great use of language is the *concealment* of ideas, let us look carefully at this resolution, or we may miss much of the enjoyment that is to be derived from it. The Odontographics "do not recognise in the constitution of the Association the right of that body to deny the right of representation to societies which may decline to adopt" the Code of Ethics. That is a mixture of quotation and paraphrase; but that it is fair and candid may be seen by comparing it with the resolution above. In short, divested of its ambiguity and circumlocution, it means that the American Dental Association has no right to decide who shall compose its membership. It may be claimed that the constitution of the Association does not require a recognition of the Code of Ethics to entitle a local society to representation. And it certainly does not. But that makes no difference. The resolution denies the right of the Association to so amend its constitution, and all this in view of the fact that the constitution of the Association, as all constitutions do, provides for its own amendment.

The constitution, when adopted, defined the conditions of membership; and it would not have been a *constitution* had it failed to do so. This was in accordance with the inherent right of the constituters; and in providing for amendments, they have reserved the right, and made provision for its varied administration.

Of course the Odontographic Society, and all local societies, are entitled to representation, whether they adopt the code or not, but their delegates in subscribing the constitution of the Association, can not "respectfully decline to accept the same." Then what is gained by rejecting the code in the local society? Many members of the Odontographic Society are now members of this Association. These have recognized the code; and its delegates,

if it sends any and they discharge the duties delegated to them, will do likewise. Here, then, will be the anomaly of "a house divided against itself"—of part, perhaps a majority, of the members recognizing the code, as members of the Association, while, as members of the local society, they "unanimously" decline to accept the same."

A proposition to amend the constitution is pending; and this proposed amendment *suggests* that local societies shall substantially recognize the Code of Ethics to entitle them to representation. The pending of this may, to some extent, explain the resolutions under consideration. The *Cosmos* report states that Dr. Watt proposed this amendment; but it was proposed by a different man, Dr. Spellman, perhaps, and was simply read by Dr. Watt at his request.

But a little indulgence in biography will throw more light on the resolutions than anything else.

At the Chicago meeting, the Publication Committee was instructed to revise and correct the constitution and by-laws. Several amendments had been adopted; and it was claimed that there were typographical errors. All that any thoughtful person supposed the committee was to do was to correct the print-errors, and insert the amendments in their proper places. But the committee came to Boston with a report, virtually abolishing the code of by-laws, and putting two or three of its sections into the constitution, thus aiming to alter the constitution without the one year's previous notice. One of these *reported* additions to the constitution is as follows:

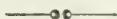
"Any act of special immorality or unprofessional conduct, committed by a member of this Association, shall be referred to the Committee of Arrangements, whose duty it shall be to thoroughly examine into the case, and report at the next meeting, if the charges be sustained. Whereupon, by vote, the offending member may be reprimanded or expelled."

The chairman of this committee is the author of the Odontographic resolutions. He proposed then to alter the constitution in violation of its own positive stipulations, yet now he introduces a resolution expressing a disbelief in the ability of the Association to alter it in accordance with these stipulations, unless the local

societies, or at least the Odontographics are consulted. And the fun of it is that he is in dead earnest all the time.

The same gentleman was a member of the Committee to prepare the Code of Ethics, and he expressed himself to the chairman of the committee as highly pleased with the report; but when it came up for consideration, he was "on general principles opposed to its adoption; as unnecessary for gentlemen, and its enforcement impracticable upon those who were not." And all this occurred although he had tried to force into the constitution but a few hours before, a section making provision for even the expulsion of members for "unprofessional conduct," while the Association had no definite guide or expression as to what unprofessional conduct is.

W.



### OHIO STATE DENTAL SOCIETY.

THE late meeting of the Ohio State Dental Society was one of the most profitable and pleasant meetings we have lately attended. Not as many were present as we had a right to expect. The warm weather, the stringency of the money market, the busy season of the year, the feeling that it would be pleasanter to attend the "American Dental Association," so soon to meet in our bounds, all had something to do in keeping members away, but not half so much as a want of interest in the progress of the profession, and a confirmed habit of neglecting to contribute, even sympathy, to promote this progress.

But a goodly number of the wide-awake members were on hand. There not being a quorum in the morning, no formal business could be done; but the time was spent in a pleasant and profitable exchange of sentiments and opinions, and at half past one, the society came to order, and went, at once, to business with an energy that soon made up for lost time. No report of the discussions was kept. (Those who expect to be blessed by such meetings had best be on hand.)

We have not the time, space, or disposition to give a full detail of the many good points of the meeting.

Under the head of "Preparations of gold for filling teeth," the subject of "crystal gold" was somewhat fully ventilated, as well as the peculiar properties of "shred gold."



"Of new appliances and apparatus," Dr. Dunn, of Delaware, Ohio, exhibited his new patented method of making porcelain work. The improvements on the old style, or "Loomis' patent" are radical and valuable. We expect to notice this at more length, hereafter.

Under the same head, Dr. Berry, on his own behalf, and that of others associated with him, exhibited specimens of Aluminum plate, stating that the details of the process of mounting artificial teeth on pure aluminum are not all perfected, but that it was believed, by the experimenters, that the difficulties are all overcome, and that soon this metal will be in general use, both for partial and full sets. The history of these experiments is about this: When the late Jno. T. Toland opened his Dental depot, we employed him to obtain for us a supply of aluminum, for experiment in reference to its application to mechanical dentistry. He succeeded in getting it by the March or April following. Our first experiments had reference to the properties of the metal, chemically considered. These proved satisfactory. A few mechanical manipulations were *not* satisfactory. A failure of health occurred, and all mental effort that could be abandoned was laid aside. At Boston, last summer, we procured a fresh supply of aluminum, resumed experiments, were again prostrated, and, on getting up again, made arrangements with Drs. Berry, Drake, and Williams to co-operate, and so we have been experimenting ever since. We believe that the success will reward the toil, and that the profession and the public will both be blessed by the substitution of a noble metal for the objectionable rubber. With Dr. Dunn's improved porcelain for full sets, and aluminum for both full and partial pieces, the usurper, Vulcanite is likely soon to meet the fate of its prototype, Maximilian; and in JOSIAH AND Co. it will have as sincere mourners, if not as disinterested, as the latter has in the crowned heads of Europe.

We are glad to know that others are experimenting with aluminum. The more attention devoted to it, the more likely will good results follow.

At the evening session of the second day, some time was devoted to a question of ethics. A resolution was adopted condemning the employment of agents, by dentists, to go from house to house, to solicit and perform operations. We regard the point as fully met by the code of ethics, but it is no harm to have "line upon line."

At a late hour, the society adjourned till its annual meeting in December.

W.



# THE DENTAL REGISTER.

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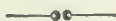
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AUGUST, 1867.

[No. 8.

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## Original Communications.



### THE RELATIONSHIP OF MATTER.

BY J. F. SANBORN, M. D.

*Mr. President, and Members of the Iowa State Dental Society:*

Dentistry is a specialty of that noble, learned profession, that has for its object the "cure of the ills to which flesh is heir," and not a mere trade, the routine of which may be learned in a few months.

Dentistry has been raised to its present high position, by the combined influence and self-sacrificing efforts of men of high professional attainments; exerted through Dental societies and Dental Journals, where discussions and the interchange of ideas have had an elevating influence; so that as great progress has been made in our profession as in any branch of human investigation.

The education of a Dentist, now embraces something more than a knowledge of the mechanical manipulations necessary to Dental operations; yet there is no branch of human skill that demands a higher order of mechanical ingenuity.

A knowledge of the pathological conditions that come under our observation, demands a thorough investigation of the fundamental principles of Physiology; the exigencies of the case require a reasoning from cause to effect, and from

effect back to causes ; and a knowledge of the relationship of remedies to disease ; which in order to understand, it is necessary to investigate the essential nature of disease, and wherein lies the power of removing it.

No apology is deemed necessary for presenting for your consideration a subject not directly connected with operative manipulations ; but rather with physiological principles that underlie the use of "*Materia Alimentaria*," as well as remedial agents, in treating pathological conditions.

In all our investigations, we are prone to take the conclusions of others as a basis from which to reason, rather than go back to first principles and investigate for ourselves.

The errors of our predecessors are continually biasing our better judgment, so that we take for our guide "incoherent, meaningless facts, without cause or use;" if the premises are false the conclusions must be wrong, and the practice based on such deductions must be defective.

On the other hand, the Godlike powers of mind when properly directed, discern the errors of the past, and reason from nature up to nature's God. A practice based on such reasoning, will have its influence in spreading the true light of science far and wide ; and may such a course of reasoning guide us in all our investigations and professional operations.

Such a course has raised our noble specialty from what was once a trade, but now stands a peer among the learned professions.

Dentistry has advanced with such rapid strides, that it is only by continued exertion and investigation, that one can keep up with the improvements of the ever changing present.

Judging the future by the past, with "*Excelsior*" for our motto, we may hope for still higher attainments.

To do this, let us each improve the talents God has given us ; let us be students ever ready to receive new ideas ; always submitting them to the closest investigation of an intelligent judgment.

With these preliminary thoughts, your candid consideration is invited to our subject.

The time and space allotted for this essay are quite inadequate to do anything like justice to the subject, if it is expected that we should present it in all its phases; but rather consider our object attained, if the thoughts here presented shall induce, at least, some of the members of this society to turn their investigations to this, not new, but imperfectly explored field of thought.

All material things of which our senses can take cognizance are matter.

In our investigation we find matter presenting itself for our consideration under three forms :

1st. Inorganic matter.

2d. Organic matter.

3d. Matter in a transition state, from organic to the inorganic condition; and which may be known as broken down matter. There are certain conditions or relationship existing between these various conditions of matter, as appertaining to vitality; to which your attention is respectfully invited.

Man has a mind that allies him to God, and the matter that enters into the composition of his body relates him to earth. Mind has its influence on matter, and within certain limits, moulds it to its will.

The cranium in its form and size, accommodates itself to the brain, the seat of mentality; and not the brain to its osseous parietes.

The mind makes the man, the body is but the instrument through which the mind manifests itself; so that we should so relate the matter of which our bodies are composed, that the mind may have full scope for its highest and best attainments.

The inorganic world, is the source from which all organic matter must have its origin; and to it, it must all return. "Inorganic matter can pass to the organic, only by the

vegetable kingdom, (*vide* Yeomans' Chemistry,) and in so doing it becomes organic matter, and assumes cell-form and structure; a primary form of matter, common to all organized bodies.

The breaking down of cell structure, is the first step of organized matter towards the inorganic condition; and is a change, which is continually taking place in all bodies endowed with animal life; and to replace the cell structure incident to this continual breaking down, is the demand for food.

All organized matter comes under the fiat of the Creator, "of dust thou art, and to dust shalt thou return."

Water, though inorganic matter, has its use in dissolving and carrying nutritious matter to where it is wanted, to repair and build up the tissues; and also, another equally as important a use, is to wash out, to cleanse, and purify the tissues of all broken down matter. It is a fluid prepared by God for this double purpose, and is so abundantly found in connection with the organized solids of animal life, as to constitute  $\frac{7}{8}$  of the entire weight of the body, so that it is plainly seen that water bears a natural relation to the tissues of the living body; which is not the case with any of the inorganic solids.

The vegetable kingdom subsists on inorganic and broken down matter, be it animal or vegetable. The chief end of the vegetable kingdom is to elaborate matter, that is, to change inorganic into organic matter, for the use of the animal kingdom; which can appropriate organized matter, but cannot elaborate it, or raise it above the condition it is in when received.

Organic matter is found in various degrees of development; the flesh of the crustacea is very far from being as highly developed as that of the ruminata.

The cell structure of the vital tissues, is derived from the aliment taken; so that if the food eaten is of low organiza-

tion, so will the tissues, assimilated therefrom, be of a low development.

As animal life cannot elaborate matter, or raise it above the development it is in when it is received; it is obvious that it can never use matter to build up the tissues that is inorganic or broken down in its structure.

All such matter being food for plants, bears a natural relation to the vegetable kingdom, and an abnormal relation to the animal kingdom.

Webster says, "A poison is an agent capable of producing a morbid, noxious, or dangerous effect upon any thing endowed with life;" so that any thing received into the system, be it fluid, solid or gaseous, that bears an unnatural relation to vitality, adds to the amount of matter to be depurated from the system, and thereby uses up vital power, without adding to it by so doing; it occasions a morbid or noxious influence, and comes within the definition of a poison.

All matter received into the vital domain, must bear some relationship to vitality; it must be either normal or abnormal, there is no neutral ground in this relationship.

Matter in its relationship to vitality must occasion some action. What is that action? friendly or antagonistic in its character? Is that action analagous to that of matter, when according to certain fixed laws, it assumes a certain definite form, as that of the crystal? or is it like the action of matter when governed by chemical affinities? But rather, is it not an action governed by a superior power, that may well be termed vital? and is antagonistic, whenever matter that bears an abnormal relation to it, comes within its influence.

Says a distinguished author, "Life allied with matter produces combinations entirely different from those which chemical affinities of the elementary particles dispose them to assume; and preserves these combinations in opposition to their physical tendencies, as long as it continues thus associated; and this superiority is instantly shown by the readiness with which the elementary particles of that matter



enters into different combinations and forms, as soon as the vital principle is withdrawn."

The vital powers by a series of changes, take matter foreign to the vital domain, and by digestion and assimilation, organizes them into the structure which it animates.

Vitality as manifested in the phenomena of vegetable life, elaborates from the crude, inorganic matter of the chaotic mass, so abundantly supplied for that purpose, from the great alembic of nature; and among other of its productions, we find the beautiful wheat berry; from which animal life can organize all the various tissues that go to make up its structure.

The doctrine of vital action, lies at the very foundation of a correct understanding of physiological principles. Organic and inorganic nature, are distinct in their essential attributes; each has its general laws peculiar to itself. "Organic matter is fundamentally distinct from the inorganic in its elementary constitution; in the aggregation of its molecules; in the structure of its parts; in its condition as a whole, and in the phenomena it evinces." Liebig says, "It is a great comprehensive law of matter, that its particles possess no self-acting, no inherent power of originating motion." All the phenomena of action as displayed in the vegetable and animal kingdom, is entirely dependent on the vital principle. In the animal kingdom there must be two classes of action.

1st. To use and appropriate matter that bears a natural relation to it, and includes all the changes embraced under alimentation and assimilation. The 2d class of actions is to remove all matter that bears an abnormal relation to it, and embraces all the changes incident to disintegration and depuration.

Health is the perfect balance in these vital changes.

Physiology teaches the phenomena of vital action, as found in health. Pathology begins where physiology ends. Unbalanced vital action is the effect, of which the abnormal relationship of matter is the cause; and disease is the effort

of vitality to remove the obstructing cause, to restore the normal relationship of matter, and restore the balance in those vital changes which are incident to life.

In the relationship of matter, disease is an action; and in therapeutics it should be treated as an action to be regulated, rather than a something to be destroyed.

If disease is a vital action to remove obstructing matter, an effort of nature to restore the normal relationship, a prerequisite to health; then the use of "Materia Medica" that bears an abnormal relation, does but add to the cause of disease. Professor Paine, of the N. Y. University Medical College, in his Institutes of Medicine says, "Remedial agents are essentially morbidic in their character," and "they operate as do the remote causes of disease." "We cure one disease by producing another, which we understand to mean, nature abhors the retention of matter in the system, that bears an abnormal relation to it; an action is set up to remove it; but we, by presenting a poison or matter that bears such an abnormal relation, that she abhors it more than the original cause of the disease; so she leaves her warfare on it, and directs her energies to remove the "Materia Therapeutica."

A chronic disease is almost always a drug disease, occasioned by the presence of abnormal matter, given to change or subdue the action, set up to remove the obstructing matter that has been the cause of the acute disease.

From what has been shown, it will be seen that matter in its relationship to vitality is acted on by the vital forces, and does not act of itself.

"Strong medicines" and "powerful poisons," are misnomers; they express a vital resistance to abnormal matter, and convey an impression that has no foundation in facts; for medicines do not act, but are acted upon by the "vis vitæ;" so that the true skill displayed in the administering of drugs, is to change the direction of the vital action, so as to give just enough to pass a certain point and no farther.

In our study of the relationship of matter, the laws of

vitality, as we interpret them, are the use of such matter only, as bear a normal relationship to the tissues of the body; and in cases where there is disease, by following these laws we may aid nature in her efforts to cure, without causing some other disease to cure the case in hand; the acute disease will disappear on the removal of the cause that has occasioned it, and that too, without causing a chronic disease to take its place.

In practice there should be such a regard to the laws of the relationship of matter, that the remedy should not be worse than the disease.

In surgery it is often necessary to destroy the life of a part, for the good of the whole; as in the case of sphacelus cancer, or ulceration of the peridental membrane, when it would be proper to use something that would bear an abnormal relation to the part to be sacrificed, to occasion its death or removal.

In order to bring this subject more fully before your minds let us take a case in practice, and apply the foregoing principles.

Peridentitis is one of the most obscure and difficult affections we have to treat.

What is the source of the obstructing matter that is the cause of the disease? There are five outlets for depurated matter; the bowels, kidneys, lungs, liver and skin; if any one of these are not in sufficient degree of activity to perform their normal duty, some other part must perform vicarious duty, as suppressed perspiration is followed by increased activity of the kidneys or bowels, and in like manner peridentitis may be occasioned by the suppressed vital action of some other part. If so, the treatment should be directed to the removal of the general cause, and the sedative use of cold to the parts will be all that will be necessary.

A cathartic may oblige the bowels to do this vicarious duty, and thus cure one disease by producing another some-

where else, which is the "modus operandi" of "Medical Therapeutics."

The prolific cause of peridentitis is the death of the pulp, which soon becomes decomposed, the orifice for the escape of pus becomes closed by extraneous matter, and as there must be a vent for it somewhere, it is often through a foramen in the apex of the root, into the alveolus.

The pulpy cavity not properly prepared and filled, may be a cause of the disease.

If the accumulation of pus is very slight, endosmosis may remove it; but if more abundant, there will be vascular engorgement, exudation of coagulable lymph, which will become organized into a membrane for the protection of the surrounding tissues, and has been called "pyogenic membrane."

This sac becomes filled with pus, which occasions a pressure on the surrounding nerves, and pain more or less severe is the result.

The therapeutic indication in the acute variety of this disease, with much vascular engorgement, may require scarification and cold water applied locally, and a warm pediluvium, and if accompanied with fever, a warm bath is indicated, to divert the action for the removal of the obstructing matter more fully to the surface, and by so doing prevent the place of the local disease from becoming a depurating surface.

If it *does* become a depurating surface, there will be a chronic ulcer, with a discharge of pus through a fistula in the gums.

In this condition of the disease, general medication or constitutional treatment, with the hope of thus curing the local disease, is not in accordance with the laws of the relationship of matter. The case comes under surgical treatment, where the death of a part must take place for the good of the whole.

In connection with the proper observation of hygienic rules, an escharotic that shall occasion a death of the immediate surrounding vital parts, and thus destroy and break up the bad habit of depurating. This can be done with nit. arg. 60 grs. to the oz. of water, or by a saturated solution of iodine in creosote.

Either of these injected through the fistula, or pumped through the apex of the root, by means of fine prepared cotton closely wound around a Swiss broach. It requires care and skill to make the application equal to the theory; and on this depends most if not all the chances of success. In some cases it may require but two or three applications; other cases may take weeks to effect a cure.

As soon as it is proper, fill the root, after carefully wiping it out with a pledget of cotton; and according to the best Dental authority it should be slightly moistened with creosote, which it is said, forms an insoluble compound with the fluids of the parts.

The crown should be filled at some other sitting, if gold or tin is used for a plug, as there is danger of exciting a renewed attack of inflammation, if too much manipulating is done at one sitting.

In treating all the diseases to which "flesh is heir," see that the relations of matter shall always bear a natural relationship to vitality, when to save life is the desired end.

But in surgical cases, when to save life it is necessary to cause local death, then and then alone, use matter that bears an abnormal relationship to vitality.

Nature's law of cure, is true obedience to physiological law.



## ADDRESS.

BY WM. O. KULP, D. D. S. •

Read before the Iowa State Dental Society.

*Gentlemen of the Iowa State Dental Society:*

I have thought it would not be amiss at this time to recall some of the workings of our Society as well as its history. It may do us good, in that it will aid us to see that we have REALLY made advancement in our standing as a Profession, as well as in personal abilities; and thus lead us to go on and upward the Hill of Science, until we shall be masters of our position. May it be so *is* my prayer!

A few years ago a few members of our Society, conceived the idea of calling a State Dental convention, to consider Dental matters; also to organize a State Society, if possible. After writing many letters to different members of our profession throughout the State, a call for a convention was issued to assemble at Muscatine, July 14th, 1863, to which six members of the profession answered; after considerable discussion and "cross-firing," a resolution was passed, declaring that we would organize a State Dental Society. A committee on permanent organization was appointed, whose report was adopted, and our worthy Bro., Dr. Chase, then of Independence, was elected first President, and Dr. McCarvey from Dewitt, Recording Secretary.

Still at this fair start, the opposition to its future growth by those who ought to have been its friends, was not without great effort, as letters written (which have since come to light) would show; but another call was issued for a meeting to take place at Iowa City, January, 1864, which was responded to more liberally, as we had at that meeting eleven members present. Here a constitution and order of exercises were adopted. Dr. Tulloss elected presiding officer, our Recording Secretary was re-elected, and your humble servant was elected Corresponding Secretary. The meeting

was so full of the good spirit, and all profited so much, that we felt that the next annual meeting must be a perfect success; and so it was, as the meeting at Davenport, in July following showed, where there were present twenty members of the profession. This meeting will ever be a bright spot in the history of our society; those of us who were present, all feel that we grew much in professional stature those few days. The start we got then we have shown in our daily practice, was one in the right direction; how many remember that the use of the mallet and wedge were among the good things served up at that feast, as well as that heroic treatment of abscess, which has so characterized our success in that direction ever since; and many more things of no lesser good to us and our suffering patients. Compare days prior to this meeting, with our standing now; and can any one say our Society has done us no good. At this meeting the old officers were re-elected, and another semi-annual meeting was ordered to come off at Des Moines in January, 1865, at which still more names were added to our membership; much was done at this meeting to bring our State organization to a level, if not above any similar one. On account of the difficulty of reaching Des Moines during the winter, there were many of the old members absent, and we decided to discontinue our winter meeting for a time at least.

Dr. Ingersoll was elected President; Dr. Chase, Recording Secretary; Corresponding Secretary was re-elected. Our next meeting was held in Dubuque, in July following, and we had one of our largest gatherings; many new members were added, much good was done to the profession in Iowa, and the bonds of Society were very much strengthened. It was a great benefactor to the deciduous teeth, as that subject was ably discussed, and confessions were made and amends promised, that if adhered to, much has been accomplished in the right direction.

The old officers were re-elected. The next annual meeting was held at Burlington, July, 1866, at which was one of our

best meetings, and many new names were added to our membership; and some of the most important as well as scientific subjects were very ably written upon and discussed. It is quite interesting to compare the nature of our discussions here with those of our first meetings.

Instead of discussing fees and rubber, and imagining what was the best way to prevent saliva or mucus from running down the necks of teeth, and thus interfering with filling cavities in superior incisors, as we did at Iowa City; we were enabled to stand alone as it were, and look into the mysteries of Dental Physiology, Pathology, Hygiene, and Chemistry: and this year we are to go still further in our discussions, judging from the bill of fare served by our noble Corresponding Secretary. Looking over the past, and to the present, can we say that the Iowa State Dental Society was formed in vain? Has it done no good? Yea, verily, and may it still go on until the time is that he who does not attend its meetings and profit thereby, "Shall be despised as one neglecting his duty, to his patients and his profession, and both unite to sting him out of it without mercy;" and judging from the past, let us take new courage and strength, and go on doing our whole duty, calling on science to aid us in our investigations after truth, until we have unfolded all her mysteries, and we are truly masters of our chosen profession; and let us encourage Dental education in every way, let us not take any one into our profession who is not willing to fully conform with the precedence set forth by the committee appointed by the American Dental Association at its last meeting on this subject—two years of Office tuition and two full courses of lectures at some regular Dental College—and let us as preceptors see to it, that our students are FITTED for College. The country is overrun with Dentists, so-called, who are degrading our profession and are fast bringing it down to a trade level; and the fact is, Dentists are to blame for it, for how many of us have turned out six months' students on to the public; (I am thankful to say, I am not guilty of this

error, if I am ever so faulty in other things), all ought to have more love for our institutions of Dental education; many who are still without their honors who are worthy, who ought to enjoy them; such ought to show themselves at such places, and make known their wants, and submit to an examination, and receive the honor which shall show him to be a regular practitioner of Dentistry; and by example, tell those coming after him, that he honors these blessed influences coming from these institutions, and he can then CONSISTENTLY urge our students to go through a regular course of study. Gentlemen! these institutions are monuments in our profession, and they need our unqualified support as well as we need their benign shadows to fall around us; and let me again urge you to take no one into our profession, who will not go through an entire course of study in one of these, and graduate. Then we shall continue to advance our noble profession, even after we are gone to our long home. In conclusion, let me urge all who are here present to-day; be not wanting in zeal and earnestness in our search after truth; let us get and give the best there is, and not criticise words during our discussions; but freely do so with error, and let us not lose sight of the fact, that as our Society stands, so does the reputation of the profession in our great State; let us be dignified, earnest, honest and true, then all will be well. I thank you, gentlemen, for your assistance and courtesies to me during my reign as your president, and let us not forget to be thankful to Him who holds us all in the hollow of his hand, for his many blessings to us individually, since our last meeting, and for this propitious gathering to-day. May He still continue His favors to us all.

## EXTRACTING TEETH.

BY DR. M. S. JACKSON, OSKALOOSA, IOWA.

DEAR REGISTER:—Permit me through your columns to give a few thoughts on the subject of extracting teeth. Although much has been said and written upon it, there yet remains much to be learned on this important branch of Dental practice. There has been much said of the policy of extracting teeth without the use of the lancet. Many objections have been urged against it, and many advantages brought forward to sustain it. One writer publishes it to the world as his peculiar style of extracting teeth; and another criticises his remarks, and calls his practice a hobby.

Yet none of these writers, from the venerable Dr. Harris down to Dr. — of the present day, says one word about TIME in the operation. Do we ever see an account of a surgical operation, without seeing the length of time noted in which it took to perform that operation? Do we see or hear of any great bodily suffering, without instinctively asking or wondering how long such suffering lasted?

In childbirth, for instance, what a shudder it produces to hear that a delicate mother has suffered all night in labor! and how pleasant, on the other hand, to know that her suffering was all over in half an hour!

Dr. Harris says there are few cases in surgery that cause more dread than the extraction of teeth; and yet do we not work away at this painful operation with the most perfect indifference as it regards time?

And as time is the essence of many great contracts, so it should ever be in all operations for the extraction of teeth, always to get through with the operation as soon as possible, and never prolong it; not even at the suggestion of the patient, beyond the time actually necessary for the removal of the teeth, and you will be surprised (if you have never tried) how much time, and consequently suffering, you can save, and how many teeth you can extract in a few moments,



and a majority of them, too, without the knowledge of the patient. My incredulous friend asks how this can be done without the aid of anæsthesia. It is simply this: It is a well known fact that a sharp hurt, such as a cut or bruise, deadens the sensibilities of the surrounding parts; and when one tooth has been extracted, if there be four or six adjoining, they can also be removed before reaction takes place, and the pain consequent upon the first extraction is about all that is experienced. I have seen first-class operators, in extracting a number of teeth, average one in about ten minutes; when they should have taken out ten in one minute. My mode for extracting teeth is this (and I give it not as my peculiar style of operating). I know not how many do the same; I know some, however, who do not:

When a patient calls to have a number of teeth removed, I examine them thoroughly to ascertain what advantages, if any, can be taken, and where the greatest number can be taken from without changing my forceps, always beginning with the easiest one of this selected number. And here, let me remark, that I seldom use the lancet, unless it be for fangs, or teeth where the gum is very firm and hard. My experience goes to prove (to me at least) that in nine cases out of ten where it is necessary to remove the teeth, the gums are soft and loose from them. And if there has been no anæsthetic given, I bathe the gum of the tooth selected with chloroform, and extract it and as many more as the flow of blood will permit, without letting go of the patient's head. In this way I have often taken out six, eight, and ten, and when the patient really thought I was all the while at one tooth, and, in a majority of cases, when questioned on the subject, will say, why you pulled them so quickly I didn't know it! I thought you were all this time taking out the first tooth! and, in many instances, they will go away and say you put them under the influence of chloroform and took their teeth out without their knowing that you had given them any thing.

I will give only two instances that occurred in my office recently, both patients being highly respectable ladies of this place :

Mrs. T——, aged forty-five, bilious temperament, applied to have her lower teeth taken out, eight in all, four incisors, two cuspids, and two bicuspid. I had her seated, and selected the right lateral incisor to begin with, bathed the gum with chloroform, and took it and the remaining seven teeth out without letting go of her head. When the last one was extracted, (it being the hardest one of all) I let go of her head, when she sprang to her feet and said I should pull no more teeth for her, as I had been all this time taking out one. I laughingly remarked that she could keep her remaining teeth, I should not trouble her further. Her husband, who had remained in the reception room, heard her talking excitedly, came in, and insisted upon her resuming her seat and have the others taken out. At this moment she put her finger to her mouth, to show her husband how I had treated her (saying her mouth felt so strangely), when she discovered her teeth were all gone. At this she gave utterance to some of the most ludicrous expressions of gratitude I ever heard; and insists that she knew of but one being taken out.

Mrs. P——, aged forty, of full habit, presented herself to have six upper teeth taken out, one cuspid, one bicuspid, and one molar on the right side; on the left were one bicuspid and two molars, all firmly set. I selected the bicuspid on the right side to begin with, bathed as before with chloroform, and took out the entire six in about fifteen seconds, and without the slightest motion, or expression of pain from her. And when told that her teeth were all out, she would not believe it, until she had felt repeatedly for them, and still insists that she never knew when any were taken out after the first one. That there are exceptions to these cases, I do not pretend to deny. Where the teeth are very hard to extract, or are broken off under the gums, such rapidity can

not be practiced; but in these cases much time and suffering can be saved by the Dentist if he chooses to do so. And should it not be his first duty to his patients to save them from as much pain as possible, ever remembering that the longer a painful operation lasts the more exhaustion is produced, and the more dread the patient has to submit to a similar operation.

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## Proceedings of Societies.

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### PROCEEDINGS OF THE MICHIGAN DENTAL ASSOCIATION.

BY G. LEARY.

THE twelfth annual meeting of this Association was held at Adrian, Jan. 22, Dr. G. L. Field, of Detroit, presiding. The various sessions were well attended, and its deliberations throughout were characterized by earnestness and vigorous industry.

After the reading of the Constitution and election of members, the reports of committees were called for. The Committee appointed to confer with the Regents of the State University with reference to the establishment of a Dental Chair in that institution reported favorable progress, and by its own request was discharged.

The Society next proceeded to the election of officers for the ensuing year, with the following result:

*President*—Dr. J. A. Harris.

*Vice-President*—Dr. B. Bannister.

*Secretary*—Dr. G. Leary.

*Treasurer*—Dr. H. Benedict.

At the evening session, Drs. Watling and Benedict were appointed a Committee to conduct the President elect to the chair. On assuming its duties he thanked the Association

for the honor conferred, and solicited the indulgence and co-operation of all in the discharge of the duties of his office.

President Field, on retiring delivered a stirring valedictory address, which was received with evident interest. A University Committee was again appointed to urge the establishment of one or more Dental Professorships.

On motion of Dr. Watling, a committee of five was appointed to draft a paper for consideration, petitioning the Legislature to legalize the practice of Dentistry. The report was accepted and adopted, and the committee was further instructed to procure printed copies and distribute among the members of the profession to secure signatures.

#### SECOND DAY—MORNING SESSION.

After the transaction of business, the subjects for discussion were announced.

##### 1st. Preservation of the Temporary Teeth.

Dr. G. W. Stone, in opening the discussion said, that he regards the subject as one deserving special attention. The retention of the deciduous teeth is of such vital importance in securing a well formed and healthy permanent set, that they are worthy of more attention than is generally given them. He finds them quite susceptible to treatment, and therefore deprecates the practice of many in extracting these organs by wholesale simply because of pain. He counsels nice discrimination in their treatment, and a very abstemious use of the forceps.

Dr. Field coincides with the views expressed in regard to retaining the temporary teeth, but cannot think them so generally sacrificed as Dr. S. fears. He urges the employment of all means, medical and mechanical for their preservation, and believes that with judicious treatment they may be kept the proper time.

Dr. Owen uses every appliance for retaining the temporary teeth that are not hopelessly involved in disease. The same sentiments were expressed by Drs. Holmes, Rix and Knapp.

Dr. Field believes that the diet of children is generally ill chosen for securing a good temporary or permanent denture. Our careful abstraction of the bran from grains not only renders the flour less digestible, but also largely deprives it of its bone-making principle. He therefore advises the use of unbolted flour and a plain nutritious diet generally.

Dr. Johnston indorses Dr. Field's views, and charges remissness of duty upon the profession in failing to properly instruct society as to the importance of retaining the deciduous teeth until naturally displaced.

Dr. Benedict related cases in practice, showing a gratifying success in the adoption of a plain wholesome diet and uniform habits of living. With the preceding speakers he disapproves the extraction of temporary teeth where it is possible to retain them in a comfortable condition.

Dr. Douglas advises entire abstinence from the use of fluids while eating. The salivary glands are thereby stimulated to a thorough performance of their functions, and thus the food is more properly prepared for the further process of digestion.

He believes that soda should be eschewed in the preparation of food, as it possesses strong affinity for the acids of the stomach, and when brought in contact with them, either neutralizes them or at least impairs their efficiency. He thinks that the observance of well chosen dietary rules and the prompt and thorough treatment of colds and other affections of the air passages with those of the alimentary canal, would greatly conduce to ward off, or at least mitigate the diseases to which the teeth are liable.

Dr. Field said, that neither children nor adults are sufficiently diligent in the use of the tooth-brush. His manner of using it is to apply to the margin of the gum and brush the tooth longitudinally instead of transversely as is the general practice.

Dr. Holmes would not undervalue the tooth-brush, but thinks the quill toothpick of greater importance, as by its



use the interstices between the teeth can be freed from extraneous matter which the brush cannot reach.

Dr. Johnston prefers the dogwood toothpick to all others, on account of its antiseptic properties.

Dr. Stone said he advocates the use of the brush and toothpick also; but as these are simply conservatory appliances, they cannot affect the constitution of the tooth which is generally defective. The deciduous teeth nearly complete their formation during foetal life, therefore if we would improve them in structure it must be done by treating the mother for this purpose during gestation.

Dr. Cahoon did not doubt the efficacy of such treatment when judiciously administered, but owing to feelings of delicacy on the part of such patients, did not think it capable of general adoption.

Dr. Harroun has had gratifying success in administering the salts of lime as a constitutional remedy for the teeth during intra-uterine life. He believes that generally the intelligent Dentist will not find any insurmountable obstacle to oppose the plan of treatment he may prescribe, and thinks if his patrons have confidence in his intelligence and integrity, he will experience little difficulty in securing their co-operation.

Dr. Holmes here called attention to the importance of elevating the standard of professional character and urged upon all the necessity of high attainments if they would bless mankind and adorn their profession.

Dr. Cahoon then called attention to the tendency of certain teeth to decay, prior to others in the same mouth. He has found the superiors generally the first to yield, and believes that the cause is attributable to mechanical violence inflicted by their antagonists.

Dr. Benedict has found that the inferior molars fail simultaneously with or prior to their antagonists, and believes that the cause is found in the extremes of temperature to which they are subjected in taking food and drink.

Dr. Finch has observed that the superior centrals first decay, then the inferior molars, and with Dr. B. regards the extremes of temperature the cause.

#### AFTERNOON SESSION.

**SUBJECT—Absorption of the Alveolar Process—Causes and Treatment.**

Dr. Field related cases in practice which were successfully treated, by the use of iodine and creosote, alternated with glycerine as a palliative in the last stages of the cure.

Dr. Harroun has used the phenate of soda with much success in the treatment of the above disease, and has often noticed the beneficial effects of the iodide of potassium as a constitutional remedy.

Dr. Owen mentioned cases of recession of the gum and absorption of the process, where the general health was good, the digestive and assimilative functions unimpaired, and no accumulations of tartar could be discovered on the teeth. He regards advanced cases of this disease as being very difficult of successful treatment, and believes that when it is firmly established, it usually accomplishes the destruction of the teeth.

After some further remarks by various members, the subject was passed, and—

The Constitutional Effects of Diseased Teeth and Fangs were considered.

A general and interesting narration of cases in practice here occurred, showing the alarming nature which diseases of the teeth are liable to assume, and demonstrated the necessity of an intelligent and discriminating diagnosis in their treatment.

The attention of the Association was next occupied by a consideration of Hard Rubber and the Cummings Patent.

After thoroughly canvassing the matter the Society unanimously resolved to co-operate with Dental Associations to

resist all encroachments upon the just rights of the profession.

On motion, It was ordered, that Thursday morning session be devoted to operations on the natural teeth.

#### EVENING SESSION.

Association was called to order at 7.30 P.M. Dr. Benedict in the chair. Dr. Harroun was then requested to communicate any information he might have to offer concerning his mode of treating Cleft Palate.

He responded by saying that where the palate is entirely cleft, the operator must depend generally upon mechanical appliances alone. He has in such cases encountered great difficulty in obtaining a correct impression of the soft palate, on account of the great sensitiveness of this organ to the presence of foreign bodies. Yet in a good subject this difficulty may be overcome by manipulating the parts with the fingers, and with instruments. When the palate becomes tolerant of touch, he proceeds to take the impression immediately. The appliance usually consists of a body of hard rubber, with a velum of flexible rubber attached. Not having models and instruments at hand, he did not explain in detail the process of construction; but closed by stating that in some cases he had been so far successful, as to almost entirely remedy the defect in speech.

The regular order of discussion was then suspended, and the Association engaged in a mutual interchange of modes of operation pursued by each in the department of Mechanical Dentistry.

Dr. Holmes related in detail his method of remounting artificial teeth without changing their present articulation. It is as follows:

After obtaining the model, place the denture to be remounted in proper position thereon, and set the whole in the flask in the usual manner. Separate the flask, then heat the part containing the plate until the rubber is sufficiently

softened, so that it may be removed without injury to the teeth or rivets; then remove the plate, and the case is ready for packing

Dr. Benedict oils the plate, and heats slowly over a flame; picks off the teeth, and rearranges them on a new trial plate; then places the whole in the mouth, and secures the exact articulation.

Dr. B. here stated that he had received a circular from Dr. Hause, by which he learned that for a certain sum he could become acquainted with the method of remounting teeth as practiced by Dr. H. He said that it had always given him pleasure to place at the disposal of the profession every new idea and improvement of which he was possessed, that in turn he had sought by all proper means to avail himself of the researches of others; but he had not bought nor would he buy professional secrets. He considered the proposal of Dr. Hause as derogatory to professional character, and entirely at variance with the usages of the Association.

Dr. Hause in reply made the *amende* honorable, by declaring that at the time he did not regard such conduct exceptional. He hoped the Association would overlook the mistake, and promised that now and hereafter his discoveries should be free and for the benefit of all. He then gave in detail his mode of procedure, which did not differ essentially from that of Dr. Holmes.

The subject of Exposed Nerves was then taken up.

Dr. Stone said he regards extirpation and thorough filling of the cavity, the most efficient treatment for exposed nerve. He applies cobalt as a devitalizer, and fills immediately. By this process he believes that periosteal inflammation is avoided.

Drs. Benedict and Watling apply the arsenical paste, and defer filling until all danger of periostitis is past. After some further remarks the subject was dismissed, and the Association adjourned until 9 A. M. of Thursday. Pending the motion to adjourn, Dr. Owen tendered the compliments

of the Dentists of Adrian, by inviting all present to a collation at the Lawrence House, immediately after adjournment. The invitation was cordially accepted.

#### THIRD DAY—MORNING SESSION.

Association met pursuant to adjournment. The President in the chair.

Operations on the natural teeth was then announced as the order of business. After witnessing several operations in filling, in which were exhibited the merits of the various automatic instruments, the Association adjourned till 2.30 P. M.

#### AFTERNOON SESSION.

The meeting was called to order by the President.

By request, the Committee on Automatic Mallets was permitted to defer its report until the next annual meeting.

On motion, Drs. J. Douglas, Finch, Knapp, Holmes, Banister, Leary and Owen, were appointed delegates to the American Dental Association.

It was moved by Dr. Stone, that a committee of three be appointed to draft resolutions of respect and condolence in memory of Dr. D. A. Wilder, deceased. A committee was appointed, and reported the following, which was adopted :

WHEREAS this Association learns with grief and heartfelt sorrow of the untimely death of our much esteemed co-worker, Dr. D. A. Wilder. Therefore,

*Resolved*, That this Association has lost an active and efficient member, and the citizens of Jackson a valuable citizen and an accomplished Dentist.

*Resolved*, That we sympathize with the widow of the deceased in her bereavement, and tender her our heartfelt condolence.

On motion of Dr. Stone, the thanks of the Society were tendered to Dr. Finch for the use of his office, and to the Dentists of Adrian for their gentlemanly and courteous bearing toward the members of the Association.



The Association then adjourned to meet in Detroit, on the second Tuesday in October next.



## DENTAL ASSOCIATION OF ONTARIO.

BY J. S. SCOTT, M. D., COBOURG, CANADA.

THE members of the Dental Association of Ontario met in the County's Council Chamber at 7 P. M. Present: B. W. Day, M. D., of Kingston, President, in the chair; J. S. Scott, M. D., of Cobourg, and John O'Donnell, of Peterboro, Secretaries; C. S. Chittenden, Hamilton; H. T. Wood, Picton; A. D. Lollonde, Brockville; M. E. Snider, Toronto; F. G. Callendar, Cobourg.

The following Dentists of established office practice of five years and over have filed their certificates as to practice and moral character, were reported by the committee on credentials as eligible for election as active members. They being present, were severally elected, and signed the constitution: Chas. Kahn, Stratford; W. C. Adams, Toronto; L. Lemon, St. Catharine's; Robert Reid, Galt; W. H. Card, Whitby; D. Pentland, Peterboro; J. A. Brown, Port Hope; T. J. Jones, Bowmanville; S. B. Chandler, Newcastle; R. Trotter, Brampton; S. F. Kenedy, Perth; W. H. Porter, Holland Landing; D. A. White, Ridgetown.

The following Dentists having established offices, but being of less than five years' standing, were elected as incipient members. Being present, they severally signed the constitution: J. M. Brimacombe, Bowmanville; J. C. Grass, Windsor; Thos. Rowe, Cobourg; J. R. Irish, Whitby; T. Neelands, Port Hope.

A letter was read from the Rev. S. S. Nelles, D. D., President of Victoria College, inviting the members of the Association to visit the University Buildings to-morrow, at 3 P. M. Accepted.

Adjourned till to-morrow morning at 9 o'clock.

## SECOND DAY'S PROCEEDINGS.

The Association met at 9 A. M.

There were thirty-one members in attendance. B. W. Day, M. D., in the chair. J. S. Scott, M. D., and J. O'Donnell, Secretaries.

Letters were read from the following Dentists not in attendance, applying for membership: J. B. Meacham, Brantford; J. Bower, Ingersoll; R. I. Brown, Galt; J. L. Waters, Barrie; G. W. Hawk, Lindsay.

Mr. R. Trotter, Brampton, called the attention of the Association to the requirement of the constitution, exacting that Dentists must have had five years established office practice in order to be eligible for election as active members. He thought the provision good.

Mr. H. T. Wood, Picton, said that the Association, when in session in Toronto, in January last, fully considered the point that an established office practice, which was successful for five years in one place was a fair test of abilities and qualifications of practitioner; that he should regret to see the standard of qualifications lowered, but hoped soon to see it very much raised.

Mr. C. S. Chittenden, Hamilton, would increase rather than lower requirements for membership. He was pleased at meeting so many of the established Dentists of the Province; and hoped we should soon have a Bill passed which would settle the question as to what qualifications should be required of persons practising as Dentists.

J. S. Scott, M. D., said if he could have been certain of so respectable an attendance, he would have taken the liberty of inviting prominent gentlemen of the town to attend as visitors. He would now move, seconded by Mr. C. S. Chittenden, that Corresponding Secretary be requested to invite physicians, clergymen and Cobourg editors, to attend meetings of this session of the Association. Carried.

Thos. Rowe, M. D., stated that he had been requested by

the editor of the *Dental Cosmos* to apply for a copy of the proceedings for publication. Granted.

Mr. J. O'Donnell, Secretary of Committee appointed at the Toronto session to draft an Act of incorporation, read a draft of a Bill to incorporate persons practising Dentistry in the Province of Ontario. Ordered to be read a second time this afternoon at two o'clock. At 2 P.M., Bill read a second and third time in Committee of the Whole, and approved.

Mr. J. B. Meacham, Brantford, and Mr. J. Bowers, Ingersoll, were ballotted for and elected as active members. Mr. F. G. Callender, on part of Committee, reported a draft of by-laws, which were adopted.

Mr. C. S. Chittenden read a paper on Dentition, which was well received and ordered to be printed.

G. V. N. Relyea, Belleville, signed the constitution and took his seat, he having been elected at the Toronto session.

Mr. L. Vancamp, Berlin, was elected and took his seat.

Mr. R. Trotter moved, seconded by Mr. C. S. Chittenden, that in the opinion of the Association it is not desirable that the title of Dr. should be applied to Dentists who are not legally entitled to it. Carried.

Dr. G. V. N. Relyea presented to the Association, for inspection, models of irregular teeth which had been straightened by mechanical appliances.

Dr. G. V. N. Relyea, of Belleville, read a paper upon Nitrous Oxide Gas. He stated that he had administered chloroform probably 1,000 times, that he had invariably required that a physician should be in attendance, as it not only served to remove the timidity of the patient, but in case of disagreeable result the best assistance would be at hand. He had had only one case of apparent danger from chloroform; but there was always a risk with regard to its results; and in case anything disagreeable occurred, the presence of a physician would divide the responsibility. He considered nitrous oxide gas preferable; he had administered eighty times during the last nine months with the most satis-

factory results. He always required the presence of an assistant; but did not think it necessary to insist upon the presence of a physician; he did not consider it dangerous in the sense in which chloroform was dangerous. In one fatal case referred to—laughing gas—a *post mortem* examination revealed the fact that organic disease existed to an extent, that the removal of a tooth would have proved fatal.

J. S. Scott, M. D., of Cobourg, replied to Dr. Relyea's question, as to his experience with nitrous oxide gas. He had been using it with most satisfactory results for little over a year. He met with difficulty at first in the way of procuring proper apparatus for manufacturing and preserving the gas. It should be kept on hand in a gasometer ready for use. He had administered it nearly a hundred times. He kept a register with the names arranged alphabetically. The best way to administer gas was from a gasometer, dispensing with the rubber receiver.

M. M. Johnson, B. A., of New York, said he was largely interested in manufacturing apparatus for making and administering the gas, and would gladly receive any suggestion as to the best kind of apparatus. He was of opinion that gas should be passed through chemicals, to neutralize any poisonous acid that might be present.

Dr. Scott replied that the old way of passing gas through three wash bottles containing chemicals had not proved satisfactory; that chemicals would soon become charged with impurities generated by increased heat required in using three bottles. One bottle filled with water was all that was necessary, whatever else might be found most plausible was of little consequence, when actual practice showed that one bottle gave better gas than three.

Dr. J. B. Meacham, Brantford, said that he had succeeded very well with gas. He had formerly made it in the old way; but intended to use a gasometer, as he was satisfied it was the better way.

Dr. G. V. N. Relyea moved, seconded by Dr. Wood, that in the opinion of this Association, Dentists should not administer chloroform except in presence of a physician. Carried.

Moved by J. O'Donnell, seconded by W. C. Adams, that this Association considers the displaying of cases of mechanical Dentistry at doors as a means of attracting the public, and also of doggerel rhymes and high-sounding puffs of capability, as a species of quackery beneath the dignity of any respectable Dentist. The Recording Secretary stated that the Medical Council, which was in session in Ottawa, recently had passed a resolution approving of the passing of an Act to incorporate the Dental profession.

Drs. Berryman and Patullo, members of the Medical Council, were elected honorary members of the Association.

Moved by H. T. Wood, seconded by L. Lemon, that G. V. N. Relyea, C. S. Chittenden, F. G. Callender, and J. B. Meacham, be elected delegates to the American Dental Association. Carried.



### NORTHERN OHIO DENTAL ASSOCIATION,

Held its annual meeting at Cleveland, on the 7th and 8th of May. The election of officers for the ensuing year resulted in the choice for President of Dr. B. F. Robinson; Vice-President, Dr. C. H. Harroun; Recording Secretary, W. P. Horton; Corresponding Secretary, Dr. C. R. Butler; Treasurer, Dr. Chas. Buffett.

Delegates to the American Dental Association, Drs. F. S. Whitslar, Dr. Templeton, C. H. Harroun, C. C. Carroll, B. F. Robinson, Chas. Buffett and J. E. Robinson.

Essayists were appointed upon various subjects.

This meeting was well attended, and much interest was manifested in the general subject.

W. P. HORTON, *Secretary.*



PROCEEDINGS OF THE IOWA STATE DENTAL  
SOCIETY.

*Fifth Annual Meeting, held at Lyons, July 9, 10, and 11, '67.*

## FIRST DAY.

LYONS, Tuesday, July 9—8 p. m.

The Iowa State Dental Society met in the Randall House parlor, the President, Dr. Kulp, in the chair; Dr. Chase, Secretary *pro tem*.

On motion a committee to nominate officers for the ensuing year, consisting of Drs. Chase, McGarvey and Sanborn.

Dr. Wilson, of Boonsboro, and Dr. Thomas, of Muscatine, were elected members of the Society.

Drs. Sanborn, Kulp and McGarvey were appointed a Committee on Examination of Candidates.

The Committee on Incorporation, through Dr. Chase, reported that this Society was now incorporated. Report accepted and committee discharged.

Dr. Sayles was appointed a committee to procure a reporter for the session.

The following resolutions were offered by Dr. Chase, and adopted:

*Resolved*, That we, as members of the Iowa State Dental Society, hereby pledge our honor that we will hereafter require nothing short of two years pupilage of those who shall come under our instruction, and graduation in some regular Dental College, as sufficient preparatory study for entrance into the Dental profession.

*Resolved*, That the facilities of Dental education are now so great that there is no valid excuse for the student for non-attendance on the lectures of our Dental Colleges.

*Resolved*, That we hereby offer our hearty support to the Dental Colleges of this country, which are so laudably endeavoring to raise the standard of professional education.

The subject of Salivary Calculus was discussed by Drs. Sanborn and Chase.

Adjourned till Wednesday morning at 8 o'clock.

SECOND DAY.

Wednesday, July, 10—8 a. m.

Society organized, with the President, Dr. W. O. Kulp, in the chair; Dr. J. Hardman, Secretary.

Dr. J. H. Nicholson, of Anamosa, was elected to membership in the Society.

On motion of Dr. Myers, certain names of Dentists, who from absence or other cause fail to attend the meetings of the Society, were ordered to be stricken from the roll.

Dr. Sanborn, chairman of committee on order of business, reported a programme, which was adopted.

The President announced that Dr. Sayles, resident Dentist, invited the Association to his house on Thursday evening, to meet the medical profession of Lyons and Clinton for social intercourse.

Dr. Smith read an essay on "Dental Quackery," and a discussion followed on the subject, participated in by Drs. Chase, Tulloss and Wilson, and Prof. Peebles, of St. Louis.

On motion of Dr. Chase, the committee on legislation was instructed to draft a bill conforming with the bill before the Ohio Legislature, and to furnish dentists with copies of the same, with petitions for its passage—the petitions with signatures to be returned to the chairman of the committee before the meeting of the next Legislature.

Drs. Ingersoll, Chase and Tulloss were designated as gentlemen to be recommended to the Governor for a Board of Examiners, in case the proposed law was enacted.

Dr. Kulp offered the following resolution, which was unanimously adopted:

*Resolved*, That we, as a Society, hereby endorse the Missouri Dental College in the effort to make our profession what it truly is—a specialty of medicine.

Dr. Sanborn read an essay on "The Relation of Matter," and Drs. Chase, Ingersoll, Smith and Hardman further discussed the subject.

The Treasurer's report was read and accepted.

Dr. Sanborn read an essay on "Cellular Physiology," illustrating his remarks by diagrams.

On motion of Dr. Sayles, the medical profession of Lyons were invited to participate with the Society in its discussions.

Adjourned to 1½ p. m.

Wednesday, July 10—1½ p. m.

Upon assembling, an election of officers for the ensuing year was had, resulting as follows :

President—Dr. J. F. Sanborn, of Tabor, Fremont Co.

Vice President—Dr. A. B. Mason, of Waterloo.

Corresponding Secretary—Dr. H. S. Chase, of Iowa City.

Recording Secretary and Treasurer—Dr. Wilson of Boonsboro.

On taking the chair, the President thanked the Society for the honor conferred upon him ; and the retiring officer read an address containing the history of the association.

Dr. Kulp read an essay on "The Principles of Plugging Teeth," and a discussion ensued, in which Drs. Ingersoll, Chase, Tulloss, Kulp and Prof. Peebles, engaged.

Dr. Hardman read an address on "Anæsthesia," after which discussion was had between Drs. Tulloss, Ingersoll and Chase.

Dr. Hudson, resident physician of Lyons, by request, read a paper upon the subject, "Anæsthesia," followed by remarks by Drs. Hardman, Wilson and Chase.

The thanks of the Society were voted Dr. Hudson for his treatise.

Prof. Peebles, of the Missouri Dental College, of St. Louis, was invited to speak, and upon compliance with the request, received a vote of thanks.

Drs. Sanborn, Chase and Myers were appointed a committee to select a curriculum for the proposed Dental Department of the Keokuk Medical College, and to designate a gentleman for the Professorship.

The Corresponding Secretary was instructed to open correspondence with the State Medical Society, and to invite the sending of a delegate to this Society's next meeting.

An hour was passed in the report of cases and examination of instruments, etc., and the Association adjourned to 8 o'clock.

Wednesday, July 10—8 p. m.

Society met, with Vice-President in the chair.

The subject of "Alveolar Hemorrhage" was treated by Dr. Chase in a short paper, and discussed by Drs. Hardman, Ingersoll, Hudson, Smith, Severance, Wilson, Chase, Tulloss, Mason, Kulp, Sayles, Bronson and Gunkel, and Prof. Judd, nearly all citing cases of their own in illustration of their views. Dr. Lothrop, resident physician of Lyons, also made some remarks upon the treatment of hemorrhage.

Dr. Ingersoll read a report or treatise on "Dental Nomenclature," which led to a discussion, in which Drs. Wilson, Ingersoll, Chase and Kulp and Prof. Judd, participated.

Adjourned till 8 o'clock Thursday morning.

#### THIRD DAY.

Thursday, July 11—8 a. m.

Society met, Dr. Kulp, in the President's absence, in the chair.

Dr. Mason reported verbally on the "Making and Tempering of Instruments," and the subject was further discussed by Drs. Smith, Hardman, Severance and Poor.

Keokuk was selected as the place for the holding of the next meeting of the Society.

The Society resolved upon the establishment of a Professorship of the "Principles of Dental Science," in the Keokuk

Medical School, and Dr. Ingersoll was chosen as the occupant of the chair, and empowered to call such assistance from the Society as he required. The pecuniary arrangements were left for the consideration of the college faculty and Dr. Ingersoll.

An amendment to the constitution, providing for the admission of Dental students as junior members, was adopted.

A letter was read from Dr. Cochran, excusing himself for non-attendance.

The subject of inflammation was discussed—Prof. Judd, and Drs. Ingersoll, Kulp, Chase and Hardman speaking. Drs. Massman and Lyons, of this city, also made some remarks on the question.

Dr. Chase read a paper upon "Peri-cementitis," and the subject was further dwelt upon by Drs. Kulp, Magill, Wilson, Severance, Smith, Bronson, Sayles and Mason, and by Dr. Hudson and Prof. Judd.

Adjourned to 1½ p. m.

Thursday, July 11—1½ p. m.

Society met, the President in the chair.

Dr. R. S. Rathbun, of McGregor, was elected a junior member of the Society.

The subject of "Treatment of the Dental Pulp" was discussed by Drs. Chase, Wilson, Ingersoll, Sanborn, Tulloss and Kulp, and Prof. Peebles.

On the "Pathology of Dental Decay," Prof. Judd and Drs. Sanborn and Chase held a brief debate.

On "Sensitive Dentine," Drs. Ingersoll, Chase, Kulp, Tulloss and Sanborn, and Profs. Judd and Peebles made some remarks.

On the subject of "Alveolar Abscess," Drs. Kulp, Sanborn, Chase and Bronson, and Prof. Judd, each made some remarks.

Dr. Kulp was elected a delegate to the Chicago Dental Society, to meet on the 12th inst.



Dr. Ingersoll was elected representative to the Missouri Convention; Dr. Bronson alternate.

Dr. Chase was elected representative to attend the Illinois Convention; Dr. Sayles, alternate.

Drs. Tulloss, Poor, Severance, Smith; Mason, Thomas and Wilson were elected delegates to the American Dental Association, to meet at Cincinnati; any members present at such meeting, not named, to act as delegates.

The Corresponding Secretary was instructed to assign subjects to members for essays at the next year's session.

The Corresponding Secretary was instructed to send a copy of the proceedings to a Dental journal for publication.

Prof. Judd was elected a corresponding member of the Society.

Dr. Chase was continued as Committee on Hygiene.

Thanks were tendered to Dr. Chase and son (who drew the diagrams exhibited;) to Profs. Peebles and Judd for their attendance and instructions; to the Northern Line Packet Company; to the Proprietor of the Randall House; and to the reporter for his faithfulness.

The support of the Society was pledged to Mr. J. H. Canon, of Muscatine, for the establishment of a Dental depot in the State.

Adjourned *sine die*.



### NOTICE TO DENTISTS.

The Mad River Valley Dental Association will hold their next Quarterly Meeting in the city of Springfield, O., convening at the Willis House, the first Tuesday in September—the (3rd day)—as early as can be reached by the trains.

Dear Brethren, we have a splendid programme for your entertainment. We most cordially insist upon your coming, and participation throughout the session.

The Essayists are, Prof. G. Watt, M. D., D. D. S. Subject—Nitrous Oxide.

A. A. Blount, M. D. Subject—The relation existing between the Medical and Dental Practitioner.

Dr. A. Berry, Dr. Campbell, Dr. M. M. Oldham,—Subjects optional.

The subjects for discussion are, 1st. Dental Pathology—to be opened by Dr. Watt.

2nd. Physical Conditions of the Teeth—Dr. Taft.

3rd. What conditions modify the effects of operations on the Teeth—Dr. G. W. Keeley.

4th. What treatment do these conditions require?—to be opened by J. H. Paine.

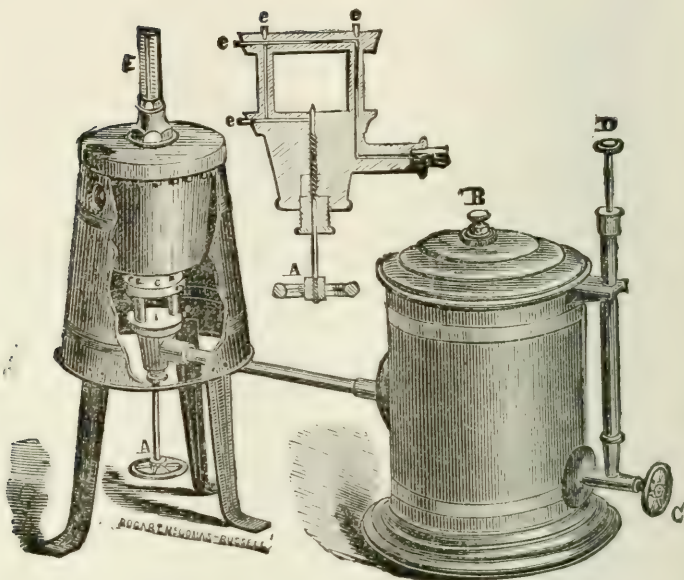
N. W. WILLIAMS, President.

J. H. Paine, Cor. Sec'y.

Middletown, O., Aug. 13, 1867. }

## Editorial.

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### HULL'S BENZINE GAS BURNER.

THE accompanying cut represents a self-acting lamp for Dental purposes, and indeed for many other uses; invented by Mr. Hull, of this city. The Benzine is converted into gas in the burner, which is driven out by compressed air upon the fluid in the lamp. The air is forced in by the air pump, D C. This lamp is very convenient and efficient; it makes an intense heat, and is far more economical than alcohol, oil or ordinary gas.

The heat is under perfect control, increasing or diminishing by turning the valve wheel A. It is just the thing for soldering, melting, vulcanizing, etc.

Two quarts of fluid may be put into the lamp at once; and the blast will be sustained till it is all consumed, which will occupy from ten to twelve hours.

It should be in the Laboratory of every Dentist.

## "ONE MORE UNFORTUNATE."

AN indiscreet friend is worse than a foe—worse than *two* foes.

When the man that stood god-father for Lamm's gold at the Boston meeting of the American Dental Association urged, as one of its chief claims to favor, that it could be used *successfully* under the saliva, we felt sorry. The gold is useful; but no man could have done so much against it by the bitterest denunciation as this *friend* did by this preposterous claim. We know it can be pressed into a cavity, so as to look like a fair filling, in spite of moisture. We prepared that kind of gold as early as 1853. But it is unfortunate when operators are thus coaxed into negligence in regard to an essential element of good operating—essential, because *gold is gold*. Again, allow us to say we were sorry to see this preparation thus wounded in the house of its friends.

Somebody's "plastic gold" was alike unfortunate at the recent meeting of the Association in Cincinnati. An ordinary cavity could be filled with it in less than two minutes—"in a whisper." When this gold is pressed, by an obtuse instrument, into retaining grooves or pits, the projecting portions cannot be pressed down with a burnisher; but when the external surface of the filling is thoroughly condensed, inequalities can be burnished down with ease. In camp-life we sometimes wondered how it came that the boards always lay with the *hard side* uppermost. This gold is more accommodating. If you wish to file or burnish it, it turns its soft side to the instrument. If you desire to fasten it in a badly shaped cavity, it "sticks in its holders," and hardens its heart, like Pharaoh of old. But we are not able to give expression to even an average specimen of the peddlers' twaddle with which it was beslimed by the half hour. We write this to tell our readers that the "plastic gold" is a pretty good thing, in spite of that speech, and to advise them to give it a fair trial.

When Sut Lovengood's daddy was "actin' hoss," he got into a nest of hornets, and jumped over a precipice into a mill-pond. Sut thought "if he meant that for actin' he rather overdid it; a mule might have done that; but dad wa'n't actin' mule." It is unfortunate that some still fall into the mistake of "Lovengood" senior.

W.

## CHEAP SCIENCE.

WE recently noticed the advertisements of two medical colleges. Each school has eight or ten professors and teachers. They each propose a course of five months, giving as many lectures each day as the students can listen to with profit. For this they propose to charge FORTY DOLLARS.

Our first thought was, that this is *fraudulently* cheap. But we must not judge. These are all experienced teachers. Some of them have been teaching these many years. They ought, by this time, to know what their services are worth. They once charged higher than this; and if they found, by experience and observation, that the fees were too high for the services, it was their duty to lower them. But, as "time is money," can students afford to spend five precious months in listening to instructions worth but eight dollars a month, though imparted by half a score of men? Either these men have undervalued their teachings, or students who attend on them undervalue their time.

But these teachers may suggest that we attend to our own business; which is just what we are doing. Educators cannot belittle their calling, without doing injustice to other educators.

"But dwellers in glass houses must not throw stones." We have recently heard of a Dental college proposing to give a student a course, and let him pay for it after he earns the money by practice. Whether or not he is to "board around" with the professors, during the session, on the same terms, we have not learned, but presume he is, as they are generous fellows, and do not profess to do things by halves. W.



## THERAPEUTIC.

WE observed not long since some most beautiful therapeutic preparations for the Dentist's use, prepared and put up by S. S. White. Among them are the "Styptic Colloid" "Carbolic Acid and Glycerin" and "Iodine and Glycerin." These are preparations in constant use by the Dentist; and he has them here prepared in the very best manner, and he obtains them with no further trouble than the purchase. It is gratifying to know, that whatever advances our profession may make, there is at



least one man, who almost anticipates any requirement of such advances, and immediately furnishes the necessary facilities.

The preparations are, we presume, to be had at the Dental Depots.



### "HOW DO YOU GET ALONG WITH NITROUS OXYD?"

WE have been asked this question so often, both by tongue and pen, that we feel impelled to answer, through the REGISTER, to save time. Here we intend to be very brief, hoping before long to embody our thoughts and experiences in a paper for one of our local societies.

Well—like whisky, nitrous oxyd "is a very good thing in its place." We can only speak favorably of it, after a good deal of experience in its use, and a good deal of research into its nature. We *feel*, more than ever, the vast importance of having an absolutely pure gas; and we take more and more care in its preparation. When *pure* we have confidence in it. As proof of this, we have administered it in cases of epileptic patients, have many times given it where there was organic disease of the heart, given it to patients suffering with phthisis, given it to very old, and quite young patients, to very fat, and to very lean ones, to plethoric, and to spare ones, and expect to continue to do so.

Now, we would very much prefer to have healthy patients; but when a doubtful patient comes for our professional services, the inquiry is, what is best for the patient? not, Can we afford to risk reputation? A sudden shock of severe pain is very dangerous to a patient having serious organic disease of the heart. If the danger is lessened by preventing the pain, the operation being necessary, the pain must be prevented.

Nitrous oxyd is peculiarly adapted to short, severe operations. It is not likely to supercede other anæsthetics in tedious ones. We gave this same opinion at the meeting of the American Dental Convention at Saratoga, a few years ago, and have found no reason to change it yet.

If nitrous oxyd were not good it would be speedily consigned to eternal infamy, through the ignorance and presumption of many who are trying to use it. We could fill a number of the REGISTER with the details of ludicrous items illustrating this point. Not long ago a man called to make arrangement with us

to send him, by steamboat, a bottlefull of the gas as he might need it. He could send down by packet, and get his bottle filled and brought back as the boat returned, and he would have the patient wait. And he wanted to know if a quart bottle would be large enough. He was practicing "medicine and dentistry" both, being driven to this course, as he said, by the wants of his community. We have not met any with wilder ideas about it than his, but very many not much tamer. W.



### THE RUBBER QUESTION.

WE have just received from the publishers, some copies of the argument made by Geo. Ticknor Curtiss, on behalf of the defence, in the case of the Goodyear Dental Vulcanite Company, *versus* T. G. Waite, of New York; made before Justice Nelson, in the U. S. Circuit Court for the Southern District of New York, in that city, on the 5th, 6th and 7th of June last, in which all the legal points involved in this controversy are fully set forth, and ably argued. It is a most masterly production. Those who wish to become thoroughly posted, can do so, by obtaining and examining this argument, better than by any or all other means now available. We will take pleasure in forwarding it to any who may wish it, upon the receipt of the publisher's price, \$1 50, or it may be obtained of S. D. Law, Esq., No. 25 Pine street, New York.



### MISSOURI DENTAL COLLEGE.

It is with pleasure we announce the complete organization of the faculty of this Institution by the appointment of Dr. H. E. Peebles, to the chair of Operative Dentistry, and Dr———, to the chair of Mechanical Dentistry. This puts the institution in good regular working order. We presume no one will question for a moment the ability of these gentlemen to fill the positions assigned to them, in a satisfactory manner. This combined with the zeal and energy which they are known to possess, in common with that of their able coadjutors, makes the success of this institution considerably more than problematical.

## AMERICAN DENTAL ASSOCIATION.

THIS body held its seventh annual meeting in the City of Cincinnati, July 30th to August 3d, inclusive. It was regarded by those in attendance one of the best meetings ever held by this Association.

The time was most fully occupied, there being three sessions each day. There were in attendance one hundred and thirty-four members. There was a larger number of reports and papers than usual, presented, *read* and *discussed*. Most of the standing committees had reports, and there was quite a number of volunteer papers, all of which received due consideration.

There was a disposition to keep all vexed and disturbing questions in the background. The proceedings were harmonious throughout.

Those who were not present can scarcely realize how much they missed by being absent.

The Association concluded its sessions on the fifth day, amid almost unbounded enthusiasm and interest; and we can hope for no better thing for this Association, than that it may commence its next annual meeting just where, and with the same spirit it closed this year. The next meeting will be held at Niagara Falls.



## DENTAL CHAIR.

WE have had in use for some time an operating chair, invented and manufactured by Dr. I. A. Salmon, of Boston. We regard it as one of the best chairs in use.

The body of the chair has a backward, forward and lateral movement. The arrangement for the head-rest gives any desirable position. The chair is especially to be commended for the permanency of its machinery, and accuracy of its movements, and fixedness in any position in which it may be placed.

A change of position is easily effected while the patient is in the chair. The footboard is attached to and moves with the chair. Taken as a whole, we think the chair will answer all the requirements of a Dental chair most fully.

They may be obtained through any of the Depots.

## A NEW DENTAL COLLEGE.

A Dental College or Institute, we learn has recently been organized, in connection with, or rather under the auspices of Harvard University.

From the proposed arrangements we have little doubt it will be eminently successful; it is under the fostering care and guidance of an old and well established institution. A part of the teachers are to be selected from the members of the medical faculty, and the members of the faculty from the Dental profession are required also to be M. D's.

The Dental course is to be given at a different time from that of the medical, so that a very strong objection that has been urged against alliances of this kind, is in this case removed.

The session, we believe, is to be held during the spring and summer, which in that latitude would be quite practicable, but in some others would be somewhat objectionable.

We suggested years ago, that New England should have its Dental College, and we feel well assured that this Institution will meet the demand. We shall take pleasure in announcing the names of the incumbents of the various chairs, as soon as they are made known.



## WATT'S CHEMICAL ESSAYS.

WE are gratified to learn that Dr. S. S. White is about publishing, in book form, a collection of the various chemical papers of Prof. Watt, which have appeared from time to time in the journals, they being carefully revised by the author. Many of the profession have long felt the want of something of the kind. Those who have read these essays, as they appeared, will want to read them again; those who have not will now be able to obtain them in a desirable and permanent form. We believe Dr. White expects to have the work out in time for the fall trade. We will notice more fully, when better posted as to the facts.



## SOCIETIES.

It is often suggested to us that our list of Societies is not correct. It is not an easy matter to keep it correct without the co-operation of the officers of societies. We trust that hereafter, when there is any change made in any of our societies, either in respect to officers, time or place of meeting, that we will be at once notified of the fact, that the proper correction may be made. The table is interesting to all only in proportion to its accuracy.

# THE DENTAL REGISTER.

VOL. XXI.]

SEPTEMBER, 1867.

[No. 9.]

## Original Communications.



### A RANDOM THOUGHT ON NITROUS OXYD.

BY GEO. WATT.

(For the Mad River Valley Dental Society.)

MR. PRESIDENT AND GENTLEMEN: It was my intention to write at length on the subject you assigned me for this meeting; but an overwhelming amount of literary labor, much of it unexpected, has prevented. That it may appear that I have forgotten neither yourselves nor your appointment, I hastily pen a thought or two.

Allow me to say that I am more and more impressed with the importance of the subject, and more in favor of a judicious use of the gas than ever before. And never before did I feel so strongly, the importance of using only *pure nitrous oxyd*.

In our schoolboy days, when bad results followed the administration of "laughing gas," the explanation was that some temperaments could not bear it. Now, let it be remembered that *pure* nitrous oxyd agrees with all temperaments, and probably with all conditions of the constitution. But this must not be misunderstood. A patient may be afraid of the gas, or may dread the operation, or from various causes, may be unduly excited, at the time. Such patients are not apt to breathe freely, and, therefore, the blood is not



decarbonized, and the system suffers. Then the apparatus may be so arranged as to make breathing difficult. The delivery tube may be too long, or the valves of the inhaler too contracted. Of course, the blood will not be duly oxygenated, and the patient is the worse for the inhalation. But when *pure* nitrous oxyd is inhaled as tranquilly and as easily as atmospheric air usually is, *it can disagree seriously with no one.*

I will not, in this paper, discuss its *modus operandi*, in producing anæsthesia. But it appears to be on principles totally different from those of chloroform and ether.

An important practical point, in using absolutely pure gas, is to avoid carrying the patient beyond the stage of complete anæsthesia. I do not recollect of having seen any thing in the books, or journals, to lead us to suspect that this is even possible. The general impression appears to be that the longer a patient breathes the gas, unmixed with air, the more profound the unconsciousness; and I can account for this only on the theory of not experimenting with pure gas. Even when pure gas has been obtained, till very recently, the experimenters only inhaled *one* pure breath of it, before commingling with it the carbonic acid and other deleterious agents contained in their expirations. Each breath, diminishing the quantity of oxygen, and increasing the carbonic acid, tended to bring on a state of asphyxia, in connection with anæsthesia. Patients thus smothered, may remain unconscious in proportion to the time spent in the process of suffocating them; suffocation, rather than anæsthesia, being the proper term to designate the process.

But when pure gas is freely breathed, the patient soon becomes unconscious; but by the time the superoxydized blood has become commingled with the general circulation, the breathing becomes less frequent and less full, the patient feeling no inclination to breathe more than enough to decarbonize the blood. Such a patient soon returns to consciousness, and may breathe the gas for an indefinite period,

without mental or muscular disturbance. I have said for an indefinite period, simply meaning that I know not how long it may be thus breathed. I have breathed it so myself for ten minutes, being fully self-possessed, reading, making mathematical calculations, etc., requiring not only consciousness, but concentration of thought; and at the close of the experiment the muscles were as obedient to the will as usual. I have had similar experience with others.

Then, to produce perfect anæsthesia, the gas should be breathed freely at the start, and all admission of atmospheric air should be prevented. Many patients fail to breathe freely and fully through dread of the operation—fearing that it will be painful, or if not, that they will never return to consciousness. Some patients can not control themselves so as to aid the respiratory function, by voluntary effort. Their breathing, at best, may be feeble. With such, it is often difficult to produce full anæsthesia. They should be induced to practice full inspirations for a little while before trying to inhale the gas; as by the effort the air cells are expanded, the respiratory muscles are brought freely into play, and the patient usually begins the gas with correspondingly full inspirations. A patient once breathed twenty-one gallons of the gas, and at another sitting thirty, without being at all unconscious. By adopting the measures just recommended, he was brought to a state of complete unconsciousness, by inhaling two and a half gallons.

But it is fortunate that those patients who breathe slowly and feebly are not usually excitable. Hence, they are generally calm enough to sit still for an operation, even though conscious that it is about to be performed. The fact of consciousness is not proof of pain; for it has been long recognized that a severe operation may be performed while the patient does not suffer, though conscious of all that is going on. Any one familiar with the use of chloroform must have seen cases that prove this position.

This return to consciousness while breathing the pure gas,

indicates that nitrous oxyd is not likely to supercede ether and chloroform for tedious operations, though I have known it highly successful in those requiring from five to fifteen minutes; but in the latter part of the operation, in each case, the patient was quite conscious, though quite indifferent, as to all that was in progress. *A conscious state, free from pain and prostration during operations*, is the goal to strive for. The man that reaches it will be crowned by the goddess of surgery, if there is such a personage. It has been more nearly reached by nitrous oxyd than by any other anæsthetic. The time is coming when a surgeon may oversee, or even perform the amputation of one of his own extremities, as composedly as he now pares his nails, and as free from pain.

And, in a short digression, allow me to state that it appears strange that nearly all the search after anæsthetics has been made among liquids. The air we breathe is a mixture of gases. The first used practical anæsthetic is a compound gas. The mucous membrane of the respiratory passages is adapted to gases, rather than to vapors. But, notwithstanding, the gases were abandoned in favor of the various ethers, which are liquid at ordinary temperatures. I believe it would be easy to prepare a mixture of gases but little, if any, more prostrating or nauseating than nitrous oxyd, and yet as lasting in its anæsthetic effects as ether or chloroform.

Having insisted on the purity of nitrous oxyd as a condition of success, it is well to inquire what agents are most like to contaminate it, why these are objectionable, and how we may avoid their presence.

The contaminating agents most likely to annoy us in practice are atmospheric air, vapor of water, chlorine, and nitric oxyd, or binoxyd of nitrogen.

The first of these annoys by the patient inhaling it along with the gas, the result being a failure to secure complete anæsthesia, the patient reaching that state referred to above, in which he will not breathe even the pure gas with sufficient

rapidity to render him unconscious. An improved mouth-piece will remedy this difficulty.

Nitrous oxyd, as ordinarily preserved, becomes diluted by mixture with the vapor of water. This does not interfere with its purity in a therapeutic sense, nor does it ordinarily result in any inconvenience. When I find a patient is hard to influence, if a second operation is necessary, I endeavor to have gas very recently prepared, to meet the case. Thus far the difficulty is *dilution*, rather than adulteration.

But when chlorine is present, the consequences are likely to be serious. This gas, even when much diluted, is highly poisonous, causing, when breathed, great irritation of the air passages, as well as constitutional disturbance. If the nitrate of ammonia is contaminated by *sal ammoniac*, called sometimes muriate of ammonia, and chloride of ammonium, chlorine will be liberated when the salt is decomposed by heat. When there is any doubt, the salt should be tested. In the absence of test tubes, small vials will answer. What are called "homœopathic vials" will be convenient. A portion of the nitrate is to be dissolved in pure water. Dissolve also a small quantity of nitrate of silver in pure water. Pour the solution of the nitrate of ammonia gradually into that of the nitrate of silver. If any soluble chloride is present, a grayish white precipitate will be formed, which will render the solution milky in appearance at first, the precipitate gradually settling to the bottom. Chlorine being twice as soluble in water as nitrous oxyd, a moderate proportion of it may be washed out; but the only judicious and safe way is not to make it.

Unfortunately it has been the general belief that when pure nitrate of ammonia is used, pure nitrous oxyd will be obtained. This is a very serious mistake. At least three violent poisons may be generated from the pure nitrate. But the one most likely to be formed, the hardest to separate from the nitrous oxyd, and the most deleterious in its effects when inhaled, is the bin oxyd of nitrogen or *nitric oxyd*.



This gas is colorless, and therefore invisible, is much lighter than nitrous oxyd, and far less soluble in water. If any of it is formed it is likely to pass into the gasometer. Unfortunately, some of our authors tell us that it, and all other impurities, are removed by passing the gas through water. To wash this out of nitrous oxyd, would be equivalent to washing sand out of sugar. If equal quantities of the two gases were commingled, and the mixture passed through water, by the time the water had absorbed all the *nitrous* oxyd, eighty-nine per cent. of *nitric* oxyd would still remain.

To separate nitric, from nitrous oxyd, some writers tell us to put sulphate of iron in the washers. But this is not satisfactory. When it is not the intention to form any nitric oxyd, and when we have no means of knowing, at the time, how much is made, how are we to know how much sulphate to use? Again, we are told to leave some atmospheric air in the gasometer. If nitric oxyd is formed, it will be changed to nitrous acid by the oxygen of the air, and this will be dissolved in the water. But how much air shall we leave in? If too much, our gas is *diluted*, and not reliable. If too little, we still have the poison.

But if nitric oxyd is formed, why is its presence so objectionable? Think, for a moment, of its nature and properties. It is composed of one equivalent of nitrogen united with two of oxygen. When exposed to atmospheric air, it takes two more equivalents of oxygen, and is changed to nitrous acid. This, in contact with water, is changed to nitric acid, by taking an equivalent of oxygen from the water. And who would not shrink from the thought of cauterizing the entire pulmonary mucous membrane with the vapors of nitric acid? But the nitric acid formed as above described, is brought in contact with this membrane, in its nascent state, being then as much more caustic than ordinary nitric acid, as ozone is more corrosive than oxygen. That nitric oxyd goes through these changes rapidly, may be demonstrated by a simple experiment in the hands of any one. Nitric oxyd is



colorless. When dilute nitric acid is poured on copper, or a similar metal, this gas rises in small bubbles. These have scarcely escaped into the air till orange colored, or red fumes are seen, showing that the change to nitrous acid has already taken place.

The only proper and safe way, then, is not to generate the nitric oxyd. And this involves the control of the temperature at which the nitrate is decomposed. I am constantly becoming more careful on this point. The heat regulator of Sprague's apparatus very nearly accomplishes the desired result in this direction. That is, when illuminating gas is used in heating. I am not familiar with the action of his regulator for Kerosene heaters. It is altogether impracticable to regulate the heat by the eye. No inexperienced person would believe how small the flame must be toward the close of the process. When Dr. Taft told us, in the REGISTER, that nitrous oxyd should be prepared and used only by a good chemist, or by one trained by a good chemist, I thought he had slightly overstated the matter; but, as he is usually so correct that it is dangerous to differ with him, I kept quiet. I am quite convinced that he was "right in his head." I would pay a good chemist a liberal fee for just a little more information on nitrous oxyd, rather than work it out myself, by a tedious process of experiments. Since our last meeting I have tried nearly a hundred experiments to find out a single fact stated in this paper. I suspected it to be a fact then; but I didn't *know* it to be one.

For the various reactions that may take place in decomposing nitrate of ammonia by heat, I refer you to a brief article in the December number of the REGISTER, which was republished in the *Cosmos*. Since writing that I have received many letters of inquiry, many of which I have not had time to answer. Some of them tell me they have no heat regulator, but they "have a boy to watch it," that their heater is small, and they don't have a large flame,—they had to get their apparatus because their competitors used gas—

and they had "a real good gasometer," and didn't I think they were safe in using it, and so on *ad infinitum*. One day I got a number of these letters. I went to sleep at night while my imagination was carrying me back to the days of James Watt. I thought a young engineer wrote to him that he had put up a first rate steam engine, but could not afford a patent steam gauge. So to make it safe he put a small fireplace under the boiler, and got wet shavings for kindling, used only green wood, and hired a very lazy fireman, and told him he needn't fire up very vigorously, and now, didn't he think it was safe for the hands to work above it in the factory. I am sometimes overrun with such inquiries from those who try thus to coax from me a *quasi* endorsement of that which their own consciences condemn.

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## PRINCIPLES AND PRACTICE OF FILLING TEETH.

BY WM. O. KULP, D. D. S., MUSCATINE, IOWA.

MAN is not excluded from all nature's end—decay, both in mind and body. This is the tendency of all God's creatures on the earth; but man seems to be the only one that does so prematurely, and as all things were created for man, God has prepared remedies in some shape for all our ills, and given us science, by the use of which we can unfold these treasures and then, if they are timely and properly applied they *will* cure. It is not less so in the case of decayed teeth than in any other of man's diseases. I will only treat of the mechanical, or surgical means of arresting this disease, not stopping to discuss the cause of decay, or its *modus operandi* of destruction, or the possibility of arresting it by physiological means, as that is to be discussed as per programme, when we are through with the essays and their discussion.

In the process of saving teeth by filling them, are more shipwrecks than in any other branch of our profession; not-

withstanding there has been more said and written on it. The question naturally arises, why is this the case. We must conclude that the fault must be in having so many in our profession who are wholly unfit, naturally and by education, to fill teeth; and they should not be allowed to continue to make efforts in that direction—a class who are honest men, who can make a very fair set of teeth, yet *cannot* possibly fill a tooth so as to save it. These ought to take up their specialty, or leave Dentistry to those whom nature has endowed with better qualifications.

Another class that fail constantly and more ignominiously than the former, are those who have not made Dentistry their study, but whom the painter and printer have made such, and they have nothing to expect but failure. If this class, and it is a large one, could be gotten rid of, there would be a grand gala day for the natural teeth. There would be fewer cheap sets of teeth worn. But these are not all who fail in saving teeth by filling: many who practice Dentistry, have not health and strength sufficient to do it well. It is a too important operation for such men to undertake; and men who have not the physical power to endure the hardships and confinement, should not be allowed to come into the profession. If a man is true to his profession, let it be Dentistry or any other, he will have to labor zealously and hard; and those who will not do this, or who are unable, should not choose a profession. Then there is a class who fail, half the time or more, and who have been in the profession so long, that we are wont to give them honor for it; yet the fact is, this is the class that makes failures respectable; and, in my opinion, the great reason why they are making so many failures is, because they are *behind the times*. They depend on their “many years” in the profession, rather than on real skill. Jealousy is a great controlling power in their organization; and for fear that they might be known to have learned something of some one younger in the profession than themselves, they will leave unlearned that which would be the

secret of success in the very points wherein they now fail. Such bigotry is not becoming in a member of the Dental profession. It is the spirit that says, "*no improvement in anything, the old way is the best, and the only one admissible.*" Any one possessing this element, should not be admitted into offices as a student; and if such are already in the profession, they ought to have help to get over that unfortunate obstacle, or be expelled from our ranks.

There are a great many failures made in the hands of much better men than any that I have yet enumerated; and it is because of neglect in some little point; and the object of my essay shall be to refer to points of error, more than to give the usual and oft-repeated process of filling teeth. More failures are made in dressing out cavities than in filling. How many will leave softened dentine in the cavity, intentionally, and from want of proper care! Often there is a strip of this dentine immediately beneath the enamel, and then again in the bottom of the cavities. How often is this left unclean! And then, how often are the margins of the cavities left rough and frail, so that it is impossible to make a filling permanently impervious, if at all, as the edges are apt to break off in the operation of filling. Or if not then, they will soon after, and thus leave a roughness around the cavity or filling, which causes a receptacle for foreign substances, and consequent destruction of all that has been done. In the cases first enumerated, I would urge that all the decayed dentine be thoroughly removed, so that the walls of the cavity are healthy bone, and so shaped that if a filling is properly put in, it will be philosophically impossible for it to come out; and the margin of the cavity should be cut down until a strong thick wall is obtained, and then it ought to be beveled or rounded, convex shaped and perfectly polished, and the gold be brought over the margin, and thoroughly condensed and polished off; the result is that the tooth is *restored, in all particulars*, and if kept clean and polished, the tooth is *permanently saved*. There is still



another form of cavities in which a great many failures are made. Take, for instance, either a molar or bicuspid, in which there is decay in the centre of the crown, or both in the centre and oppositional surfaces. In either case, all fissures should be thoroughly explored, and cut out; and if there is an approximal, and central cavity, both should be cut into one cavity, and filled as one. The same rules of polishing the margins, and thoroughly cleansing cavity, should be observed. In all cases, a filling is not first class, that is not well polished, and a perfect fit made at margins of cavity and filling, and well polished. I tell you, gentlemen, generally there are not enough pains taken in the whole operation. Low prices have made many a poor Dentist, in more ways than one. Let us be honest men, and *do well* and *thoroughly* all that we undertake; and the public *will* pay us well for it. *Real merit* has its reward not less in Dentistry than in other pursuits of life. Let us not be fearful that we get too much gold into a cavity, or that we spend too much time on a filling or cavity. Let our motto be, *do well*, *do thoroughly*, and finish perfectly all that we undertake; and my word for it, we will get rich, and be honored by those whom we serve.



## DUTY OF DENTISTS TO INSTRUCT THEIR PATIENTS RESPECTING THE CARE OF THE TEETH.

BY A. BERRY, D. D. S.

(Read before the Mad River Dental Association, Sept, 3, 1867.)

MR. PRESIDENT AND FELLOWS OF THE ASSOCIATION: That there is a great want of knowledge in the community respecting diseases of the teeth and gums, and their proper treatment, is but too evident to every Dentist. Such ignorance is sometimes met with where least expected.

Dr. Brockway in the *Dental Cosmos* for June last gives an



extract from an article by Lawrence McKay, M. D., Rochester, N. Y., on the "Gingival Margin as a Diagnostic Sign," published in the last volume of the Transactions of the New York State Medical Society, as follows :

"This margin shows different appearances in different cases ; in some it is a mere red line along the edges of the teeth ; in others it appears red and congested fully one-eighth of an inch, and even the whole depth of the gums ; again, it appears red and spongy, and secretes a pus-like fluid ; in other cases the gums appear spongy, and chiseled away from the edges of the teeth, showing their roots in a carious and filthy condition.

"Dentists are in the habit of attributing all these changes to the accumulation of tartar round the roots and along the edges of the teeth, which they dig and scrape off, to the great injury of the patients."

The remarks about Dentists is entirely foreign to the discussion of the subject. Instead of Dr. McKay going out of his way to indulge in wholesale slander of the Dental profession, he could have done better by studying anatomy sufficiently to understand that the gums do not reach the edges of the teeth when these organs are fully developed, only embracing them at their necks.

It is fortunate that injury from the removal of salivary calculus from the teeth by Dentists, exists only in the imagination of Dr. McKay. Perhaps he agrees in opinion with a vender of dentifrice, who said to his wondering street auditory, "Tartar is nothing but bread and butter that got on your teeth when you were little," and advised its removal with his tooth-powder.

If the public were aware of the importance of keeping the teeth free from the deposits of tartar, such egregious nonsense as that its removal by Dentists is done "to the great injury of their patients," would not probably be disseminated by the New York State Medical Society.

As there are no books in general use containing informa-

tion as to the diseases of the teeth and gums, and the care they require, it is important that Dentists, as conservators of the public weal, do what they may to diffuse knowledge on these subjects; which may be done orally, (not forgetting to state the fact that when the gums are healthy, teeth that are kept clean seldom decay,) and by the distribution of small treatises, such as Dr. Watt's prize Essay, or the smaller *Dental Luminary*, published by the Cincinnati Dental Association.

The sixth year molars afford an example. Generally supposed to belong to the temporary set, they are usually neglected when carious, until odontalgia causes a resort to the Dentist; when had the parents been well informed those having proper regard for the welfare of their children would have had these teeth filled at an early stage of decay.

Again, how often do we see instances of neglect to keep the teeth clean and the gums healthy, causing extensive caries of the teeth, and frequently absorption of the alveoli, and loss of sound teeth.

Another important consideration is, that the fetor from badly diseased teeth and gums is not only annoying to others, but taints the air passing into the lungs, while the pus exuding in many cases from the gums is mixed with the food and finds its way into the stomach: the fetor and pus thus seriously injuring the health of the patient.



## CHICAGO DENTAL SOCIETY.

### ADDRESS OF PROF. H. E. PEEBLES.

At the regular monthly meeting of this Society, held on the evening of July 1st, a resolution was unanimously passed inviting Prof. H. E. Peebles, of Saint Louis, to deliver an address before the Association, at his earliest convenience. This invitation having been kindly accepted, the members of

the Society, together with a large number of the Dental and medical profession of the city, assembled in one of the public halls, on the evening of July 12th, and listened to the address which follows.

The occasion was one of great interest, and will long be remembered by the profession in this vicinity; and the high standard of Dental education, advocated by the speaker, received unanimous endorsement.

Upon the close of the address the following resolution was offered by Dr. M. S. Dean, and which prevailed unanimously:

*Resolved*, That the thanks of this Society are hereby tendered to Prof. H. E. Peebles, of the Missouri Dental College, for his very able and interesting address delivered before this Association, and that he is hereby requested to furnish a copy of the same for publication.

*Mr. President and Gentlemen Members of the Chicago Dental Society, and Gentlemen Visitors:*

Through the politeness and urbanity of this Society you are assembled together this evening to listen to a very hastily prepared address from one who feels his inadequacy to the task imposed, and begs your kind indulgence to the many faults that must of necessity appear in a paper so hurriedly gotten up.

The Chicago Dental Society was organized in January, 1864, with about a dozen active members, to which were added eleven honorary members, selected from the Dentists of eight different states. Taking three of that number from the state of Missouri, and city of St. Louis, in which number your speaker has the honor to be counted, and for this honorable distinction placed upon the Mound City, I tender the Society our grateful acknowledgments.

The late venerable Dr. E. W. Hadley, was the first President of your Society. I had the pleasure of meeting Dr. Hadley only once. Then he made a very favorable impression upon me. Dr. H. finished his work and closed his office in 1865, and went to *his* Father and *our* Father to receive

his reward. How sad you all felt while standing around his grave on that memorable 6th day of March, to see the remains of your presiding officer deposited in the tomb. But such is our common doom, and oh, how dark would be that tomb if the blessed Jesus had not lain there, and arising opened up the living way to a better world.

During the two years and a half of your existence as a Society, you have met, no doubt, with some discouragements, and some opposition, as every association of men for good purposes does meet. But from your records I see that you have gone on in the path of duty, and greatly increased in numerical strength, even doubling your membership. And by your regular monthly meetings and discussions, you have grown in station and understanding as practitioners, to say nothing about the increase of social feeling and professional courtesy. The Chicago Dental Society is a tower of strength. This Society is shedding a light upon the minds not only of its members, but upon the mind of every Dentist in this great city, from the highest to the lowest. Some may deny this, others may be too low in the scale of enlightenment and progress yet to perceive this fact. To you belong the honor and responsibility of the organization of a State Society in Illinois.

Go on brothers, and do your duty, and leave results to God and posterity.

Gentlemen:—In presenting the subject I have chosen for this address, EDUCATION, I have had to draw somewhat from the thoughts of other men.

The time that has elapsed since I received your very flattering invitation, and the present, and I have had so many duties to perform in the meantime, that I have been unable to do more than make this rough draught in pencil. A decent copy, much less a condensation of the matter were wholly out of the question.

With these preliminary remarks, I shall proceed to the discussion of the subject.

Dentistry is a specialty of medicine. A specialty cannot be separated from the parent stock, and be maintained as an independent profession.

Dental Surgery depends upon the same general principles, and is governed by the same laws that govern general surgery. Hence, the same course of study, and the same general teaching, that is demanded in the one case, is necessary in the other, as a foundation upon which to predicate the specialty. Therefore, if the Surgeon is a Physician—a Doctor—so is the Dentist, the Aurist, the Oculist, for all are specialists in medicine.

No specialty can with impunity do that which will bring odium upon medicine. The special practitioner, is as much and as strongly bound by the laws of honor, etiquette, and courtesy as the general practitioner is.

With these propositions before us, we will proceed to enquire into the present standing and condition of our specialty, in our own country; also, casting a retrospective glance back over a few decades of years, we will compare Dentistry *then*, with Dentistry *now*, and undertake to show an unprecedented advancement in our specialty over any other department of medicine. We will also enquire into the cause of this progress and show its results, in securing for us a place and a standing in the great family of medical men. In this investigation, it may be argued, that the main sources of our success—our progress up to the present time—are now well nigh exhausted, and that it behooves us to look for other and more enduring means of growth and progress as a specialty, or the time will come, and is now near at hand, that we may be outstripped and fall in the rear.

A thorough and correct medical education, preceded by, and resting upon a good academic course of mental discipline and literary acquirement, must henceforward be regarded as the basis of our superstructure.

The organic elevating machinery of our specialty consists



mainly at the present time, in association, journalism, and the lecture room.

There are now over forty Dental societies, in good working order in the United States of America; and a year scarcely passes in which one more such association is not organized and added to the list.

There are now, I believe six Dental periodicals published; the seventh is to commence in October next, and an eighth is in contemplation and *may* issue very soon.

We have also six Dental colleges in full operation now, and our New England brothers are preparing to open the seventh, in Boston, upon the same plan and basis as the MISSOURI DENTAL COLLEGE.

And we trust the time is not far in the future, when the necessity will become apparent to the *profession*, that our specialty must needs be taught by regular curriculum in the great City of the Lakes. And here too, like in St. Louis, she will open her halls, her lectures, museums and hospitals to her young and beautiful daughter, and bid her enter and share in the feast of medical science.

PROGRESS is stamped upon our escutcheon. Onward and upward are our watchwords. We have not run long, but we have run well. The Goal is not yet in sight. The way is long and weary. Shall we tire and faint by the way? Shall we grow weary and slacken our pace?

Nay, but let us like the true knight, face and fight all enemies, brave manfully all difficulties, and put forth strength and energy commensurate with the demand and emergency, and victory will finally perch upon our standard; and the laurel wreath will encircle the brow of the conquerer. Though the present hearers and speaker will be laid low beneath the cold clods of the valley, and our sons, and their grand sons may have come and gone, before the halcyon days arrive; still the time *will* come, when Dental Surgery will stand *pre-eminent* as a specialty in medicine.

See, my brothers, where we stand to-day! Does the

learned physician, or the eminent surgeon, fear to cordially greet you, or lock arms with you in the street? Are we not treated as equals—as brothers, and why is this so? We are still but in our infancy as special practitioners. For when your speaker commenced practice in 1836, there was no Dental society—no Dental periodical, or Dental college in the world, nor had there ever been any such thing heard of. Thirty years have not yet elapsed since the organization of a little society in New York, from which sprang the American Society of Dental Surgeons. This society soon felt the necessity for a journal to publish their proceedings and transactions, hence, the *American Journal of Dental Science*. The cultivation and exercise of the talent found in this association developed the necessity for a school to teach the peculiar art and elucidate the science of Dentistry, and hence in 1839, the General Assembly of the State of Maryland was induced to grant a charter for a Dental College, in the city of Baltimore.

The American Society of Dental Surgeons embraced in her membership, the very best talent there was in the Dental ranks at the time. And to her honor be it spoken she did much good, and performed many noble and generous acts. But alas! she committed the egregious blunder of indulging in transcendental legislation, and prescribed the *kind of materials* that she considered ROYAL, and which might be used by her subjects, and they continue to be *loyal*. She, like governments of greater magnitude struck upon the hidden rock of reserved rights, and soon became a thing of the past.

The Mississippi Valley Association soon followed in organization, and now stands as the senior sister of the Western Dental Society; the Indiana State Dental Society; the American Dental Convention; the American Dental Association, and a host of state, district and city societies.

In the meantime, the Baltimore College of Dental Surgery, the Ohio College of Dental Surgery, the Pennsylvania College of Dental Surgery, the Philadelphia Dental College, the

New York College of Dentistry, and last, but not least the school your speaker has the honor to represent here this evening, the MISSOURI DENTAL COLLEGE, were successively gotten into operation; and each one has shown its fruits, and all are doing good service in building up the little mole hill of Dental science and art.

To our specialty belongs the honor of the introduction and application of one of the greatest achievements of modern science. That which has relieved more human suffering and pain than any one thing, in all the wide range of medical learning. I mean anaesthetics. And to us belong all, or nearly all the improvements made in the manufacture and administration of chloroform and nitrous oxyd.

Some of the nicest histological examinations and elucidations have been made under the microscope of the Dentist. And what surgeon has ever performed a nicer operation than that of neurosection of the Dental pulp; by which its normal condition is maintained, and a covering of secondary dentine induced.

And gentlemen, we all, even the youngest of you, who have been regular attendants upon the meetings of Dental societies, know that in our discussions we manifest a healthy and vigorous growth in scientific attainment. Just look back a few years and you will see that "professional fees," "hard rubber," "best materials for filling," etc., engrossed the entire attention of the gentlemen in session! But how stands the case now? "Histology," "Physiology," "Pathology" and "Education" come forth as the prominent subjects for discussion. In each of the two State society meetings, this summer, west of the Mississippi river, there were four elegant microscopes employed to elucidate Histology, Physiology, and Pathology. These facts need no comment. They are patent to all.

Each and all these things, gentlemen, speak for us, and

give the reasons why the physician and surgeon cordially grasp your hand as a respected and beloved brother and fellow in the great family of doctors.

Yes, it is because we have been up and doing—we have been learning—we have been trying to educate and to elevate ourselves, and to grow respectable. For, in professions and callings as in individuals, when they become respectable, they *will be* respected.

Although we began far down in the social and professional scale, we began no lower than the surgeon or the physician. And certainly we have made as rapid progress in knowledge, science, elevation and *education*, as any of our sister specialties, or even our venerated mother, general medicine.

Then, if these propositions be true, as we assume they are, it becomes us to enquire into the best modes of education, and how we shall proceed in the future so as to maintain the ground we now hold, and to advance in as *safe*, if not as rapid marches up the steep and rugged hill of science, and across the thorny plains of human wisdom and intellection.

The indomitable energy of the honest, earnest workers in the Dental ranks, who, seeing the true position of things, and understanding at a glance, that to elevate ourselves as specialists we must work, we must study, we must learn, have laid their shoulders to the wheel, and the car has moved on steadily.

The great fascination of the nicety of manipulation, has drawn out the best efforts and the highest skill of the Dental operator. The laudable desire to imitate the Great Creator, and repair the damages wrought by decay upon the pearly arches of beauty, in His noblest work; as well as the encouragement given by the liberal minded, and noble hearted physician, have all contributed to inspire the Dentist with an ardent love for his calling. These several considerations have aided us in our rapid advancement. But having thus attained unto a certain point of proficiency other aids and stimuli must be invoked, or we must fall in the wake.

We are far advanced in the art, but can the art precede the science? "Can practical application go in advance of discovery of data? Can implements be made without material?" "Can fabrics be woven without both implements and material?" Useful arts can therefore make no more rapid development than science. "In fact, art is usually behind science by long stretches of distance, and these sometimes so great that the popular voice, not discovering their mutual dependence, sometimes clamors against science as dreamy and unworthy, because it seems useless." "Science is its own justification; it needs no defence any more than *truth*; the one is synonymous with the other."

"But the mass of mankind are most concerned to secure the comforts and benefits of useful arts. The needs of the body, the happiness of society must be provided for."

"Men have a right to demand of science, that she do not shut up her treasures as ore in the bowels of the earth, but freely yield them up to be fashioned into implements, for useful labor and to minister to the happiness and welfare of the race." Humanity and benevolence enter with authority to compel the assent of science to their mandates.

There frequently occurs in noble minds a sore conflict between the demands of pressing labor and the monitions of conscience and of the sense of duty. As such a one, to the best of his skill, administers to the distresses of men, he fears that his mind may not possess all the facts, which late investigation has afforded upon this or that case; or that his hand may not wield the instrument with the correctness and skill which other men have acquired. What operator of twenty years practice has not felt this burden? What young Dentist in his first years has not been harrassed by the fear that he is not doing justice to his patient, because he may not be fully competent in the knowledge of the case?

"To what purpose is our Dental journalism but to furnish to the anxious, waiting practitioner the latest facts, discoveries and modes of operation or treatment; to be at once seized



upon for the good of our patients?" Why then fill their valued pages with the mere details of the business matters transacted in local societies?

But is any Dental practitioner bold enough to say, that he has explored the records of the past—has stored his mind with all the wisdom of recent years, and is every year up to the level of modern science, so that he comprehends within his grasp all of science, and can apply his art with the highest human skill? "That no case can be presented to him in which he cannot offer the best and soundest advice possible, among the Dental profession. Can settle a diagnosis with a precision which no other can excel. Can perform an operation with a dexterity inferior to no other?"

"Such perfection of skill and knowledge, no man of ordinary sense, modesty or veracity will venture to affirm of himself. The assumption would to his fellows be the strongest evidence of his imperfections."

"As the decades pass, and science and art attain greater completeness, the labor of the Dentist in fitting himself for his profession, becomes more and more heavy. As life advances, and the cares of increasing practice multiply, his disposable time for study, of both, his own and other men's labors becomes less and less, until it may be reduced to the merest fraction of a day."

Still, perhaps, no class of men strive harder than medical men do, to keep fully up to the times, in the sciences more nearly and directly effecting the art they practice; but too often they are the first to accuse themselves of being unable to meet the duties of their daily calling, and keep pace with modern improvement. And it will be observed that the men ready to make this confession are, or have been, the most studious, the best qualified practitioners among us.

Many a man, a willing votary of science, deploras the fact, that he is so swallowed up in the cares, the labors and the hurry of practice that neither energy or time remain for the quiet pursuits, to which he would gladly turn. "Could the human

frame endure heavy encroachments on the hours of sleep, and this for long periods, or a long life, what rich contributions would multitudes of general practitioners and Dental surgeons bring to their respective sciences. This unhappily is impossible, as many an overwrought brain discovers; but seldom in time to secure its longer services in the cause of science and human improvement.

The arduous physical and mental labors of the truly ambitious and industrious operator and student in our ranks, too frequently urged with an imprudent zeal, are often stopped by death. "The man fitted mentally to do most and best, feels keenly the brevity of earthly career, and strives by diligence too great for human endurance, to make life most fruitful. But alas, how often is he and his friends, disappointed in the promise of a rich harvest, because the Great Reaper thrust the sickle into the laborer's field."

"All medical men agree in seeking the growth and improvement of their art. All admit that its science should steadily and unfalteringly move forward. All will admit that the art cannot in any large sense move onward faster than the science, and that the true way to better the art is to enlarge the science."

The air, the earth, the sea, must contribute to soften the hardships of social condition, to cure the sickness of men; to soothe the pains of decay and dissolution.

"This brings us to the subject of medicine. It is both a science and an art. As a science, far in advance of its early beginnings, yet mayhap as far yet from its ultimate perfection as from its primeval state. As an art its efficiency and success depend upon the fullness and clearness with which its facts are learned and logically systematized; upon the memory and readiness of the practitioner; upon the skill of his manipulations; upon the fertility of his inventive and adaptive power; and upon the keenness of his senses, touch, sight, hearing, &c. To successfully practice an art, demands first the careful study of science and also the

education of the individual ; or, as I may express it, taking the practitioner in the sense of an instrument, he must be fashioned into shape and fitness in both mental and physical qualities, before he can deal with the facts of science in their application. To make a fabric for wearing apparel, science must discover the crude cotton, silk, or wool, and prepare it for use ; while art must invent the weaving machine and bring it to perfection. The physician possesses himself of facts furnished by science, which are his raw material, and then proceeds to qualify himself to apply them to his healing art.

In the economic arts it may matter little if there be a wide discrepancy between the advanced state of science and the clumsy appliances which utilize it. Convenience and luxury may be lacking, but perhaps nothing more. In the art of medicine there must be no such discrepancy. Human woe and bodily privation, the loss of health, the loss of the senses, and the loss of life are the subject matter of this art. Here there may be no lagging behind the front line of scientific attainment ; the very fore front is where the disciple of the *ars medendi* must place himself and remain. He has no business in the rear ; he is recreant to himself, recreant to humanity, recreant to duty and to religion, if he voluntarily stay behind in the onward march of medical science."

"It is not to be denied that some men obtain extraordinary success in grasping a multitude of facts, and in reducing them to systematic and logical order. They are the master minds of their age, and their names will be enduring as human memory. But gifted men, like Erasmus, Bacon and Humboldt, are the astonishment of mankind, and were we obliged to wait for their advent in the cause of science, the accumulation of knowledge would be at the rate of progression in geological eras, while the mode of progress, instead of being by gradual accretion, would be an alternation of long and dreary ages of stagnation with brief times of dazzling splendor. Such, however, is not the order of things. The processes of nature and the growth of human knowledge are alike.

Increase is by slow additions, by patient and pains taking observation. A multitude of workers, each bearing the little burden which he has gathered from the path where he has wandered, cast in their contributions, and as the decades pass the stately pile of human knowledge creeps upwards; it slowly assumes harmonious proportion, broadens its base, and lifts its soaring height. The rising of an ant hill, the building of Cheops, in one sense are typical of the increase of science; but these limited and finite models are far from being perfect representatives, for science is the gleaning of gems from the exhaustless mines of knowledge, whose store-houses are the recesses of the infinite mind; to neither may we venture to set bounds."

"In actual fact, regarding the practitioners of medicine, surgery or Dentistry as we find them, does not every one know that but very few of them possess the highest fitness which medical knowledge and skill can reach? This is largely due to defects of education, both of an academic kind and in the schools of medicine and Dentistry. Men are often compelled, by the need of getting a livelihood, to enter practice, feeling themselves yet very inadequately prepared.

"Want of fitness at the outset of medical life must to a greater or less degree be affirmed of every one. Youth cannot claim the attributes of age and experience. If in this regard the young doctor is at a disadvantage, neither on the other hand ought the standard of medical attainment to be purely theoretical and transcendental. It must be such as the wisdom of experienced and practical men deems needful. It must fairly represent the present; it were folly in imposing medical qualifications to seek to discount the future."

It may then be asked, can any specialty in medicine be fully acquired, or thoroughly taught in a school, when the general principles of medical science are not taught in the fullest sense of the term?

Can the anatomist, thoroughly instruct his class in "ocular anatomy," or "auricular anatomy," or "dental anatomy," to



the exclusion of general anatomy? Can the engineer teach boiler engineering to one; cylinder engineering to a second; piston engineering to a third; cam engineering to a fourth; and so on to the end of the various parts of his complex machine; yet, far simpler than the machinery of the human frame that is "wonderfully and fearfully made?"

Or, can the physiologist teach a special physiology, and show us the functions of a set of organs necessary to sight, or to touch, or to hearing, &c., without teaching the general range of his chain? Or can the pathologist, demonstrate to his class, how and why disease exists in the eye, the ear, or the mouth and teeth, and not examine the condition of other organs and their functions? Does not the intimate and complete connection of the sound parts with all their nice relation to, and dependencies of each one upon the whole; as well as the general circulation of the blood; the distribution and all pervasion of the nervous system; the common centers of alimentation and respiration, all tend to prove the absurdity of exclusive special teaching?

The man who claims to be a well qualified Dentist, and gives no heed to general medicine in his preparation, or he who claims pre-eminence upon his mechanical skill alone, is as little of a *true Dentist* as the stone cutter, who chisels the ashlar to the requirements of his rule and square is an architect, compared with the man of talent and science who plans and rears the noble edifice.

"Medical science differs from nearly all other sciences." Chemistry pursues the labors of the scales and the retort. Botany seeks light and knowledge in the field and the forest. While geology is busily hammering the rocks, or boring deep down into the bowels of mother earth. But medical science has to deal with a peculiar organism. "The subject or patient if you please is a man; his whole organism is before us; it may be only partially diseased, but that part bears intimate relations to all other parts; and sometimes is insepara-



ble from the whole. No part or organ can be isolated from the rest of the body in health; nor can it be isolated in the phenomena of disease."

The specialist, be he oculist, aurist or Dentist, has no just claims to the honors of a medical gentleman, who has not striven to gain a thorough knowledge of general medicine.

The science of medicine, in its general range, is not taught in our schools of specialty, as they are generally constituted. Nor will it be, so long as the absurd notion of making a *mere* specialist, is kept up, and our schools ignore the fact that a thorough knowledge of general anatomy, physiology, pathology and therapeutics is essential to the education of our specialists.

Where is the author of "aural physiology?" Who has given us an "ocular pathology?" And yet would either be more remarkable than "Dental chemistry," or chairs of "Dental physiology," or "Dental pathology?" Such marks of weakness, faulty judgment, and inexperience are incident to our youthful days as a specialty, better things may be expected of us ere long. Our schools will necessarily enlarge their curriculum, and widen their range of instruction. This, I think, is clearly indicated by recent developments.

If the true physician seeks to enlarge his knowledge beyond the immediate confines of his profession. "The specialist can lay no claim to honor and respect, if he permit himself to shrivel into the scanty limits of his little shell, and know nothing outside of its impenetrable crust."

He should be well educated in general medicine and surgery, and in all their departments. He ought to know them practically. If practicable, he should seek this practical knowledge in general hospitals.

When thus made ready for the wide responsibility of general practice—then let him turn his attention to his selected specialty, and select that school where the widest scope is given, and the most ample curriculum is presented.

"Let the specialist take this ground, that he has mastered

all the preliminary studies which every physician pursues when he sets forth in his career, and then let him add to this preparation the further labors of his chosen department, cultivated with ardor, and to a degree which puts him in this particular qualification visibly above the attainments of his fellows, and he then need not fear a want of recognition and respect. His fellows in the profession must and will respect him. He is one of them; he never secedes from their ranks, nor will they have the least disposition to cast him out."

"He is jealous of professional honor—he is mindful of professional courtesy. He is none the less bound by ethical rules than are his brethren. His real position toward them is that of a *counsellor in difficult cases belonging to his sphere*. He claims a peculiar skill on one subject; when other practitioners need counsel in these cases, they ask for his assistance. They may simply call him in consultation, or they may turn the patient over to his care. In either case the specialist must govern himself by the rules which all medical men observe in holding consultations with each other."

"Specialists have sometimes demanded, as their right, that they may advertise their pretensions in the public prints or in the medical journals. The former kind of self proclamation is universally condemned by the profession, as an unworthy attitude for the member of a liberal profession to hold towards the community; none the less should it be condemned and abnegated by the specialist. Advertising in *medical journals* may be done as offensively as in any other prints."

But prior to all this, professional education then must be a solid foundation laid, a broad basal structure erected, in the mind of the youth; by a thorough course of discipline and instruction upon which to build the beautiful edifice of professional learning and usefulness contemplated in the foregoing remarks.

I have just read a paper on education in one of our most popular weeklies that seems to cover the ground now contem-

plated in the organization of a system of intermediate schools of such a character that a youth could there be fitted for any of the ordinary pursuits of life. And also, the establishment of one grand university in the West, where all science would be taught, and from whence may emanate scholars, statesmen, lawyers, physicians, surgeons, dentists, etc. And I now beg your indulgence while I read an extract or two from this valuable paper :

“ We are aware that in the present condition of education and the material upon which it has to act, above all with the pressure upon young men, which is on the increase, to complete their educational course at the earliest possible date, the number of those likely to enjoy the inestimable moral and mental advantages in the discipline of the faculties which the Latin and Greek, more than any other languages afford, can not, as compared even with the better class of the population, be great. We do not expect to see the standard of Oxford, or Cambridge, or Salamanca attained, save in individual instances ; but we do contend that our higher education should be real and solid as far as it goes, and thorough and complete when it is attempted to be carried out. This must be taken as the illuminating idea of these remarks, and quicken them with their true interpretation.

On no subject, probably, are there more false theories, more vague and erroneous notions, than education ; and this among other causes, from the fact that whilst on the one hand its importance and the interest it excites force it upon the attention of every intelligent mind, on the other, it can not be fairly grasped, nor its principles understood save by those who have, in a measure at least, participated in its substantial advantages. Again, education is the formation of the intellect ; but the intellect being a faculty, or the union of several faculties, of the soul, is distinguishable but not separable from it. In forming the mind you necessarily affect the soul. Thus, at the very start, a vast field is opened and most momentous moral questions laid bare.

To form and train the mind is a science and an art. The process, from a Christian standpoint, is based upon one central idea, depends upon certain principles, is carried out by certain methods whose advantage experience has demonstrated; and all this is as much beyond the depth of him who has not mastered the subject as is any other science reduced to an art—the practice of medicine for instance. Now there are two ways in which a mastery of the subject may be gained: either as a result of having been well trained one's self, or through a special and careful study of the question; and even this latter presupposes the groundwork of a liberal education. The number possessing either advantage is more limited than one might suppose. But as so many, nowadays, undertake to discuss the subject in some or all of its branches or phases, the result is that crudities, absurdities, mischievous theories and pernicious errors are constantly being put before the public in newspapers and other publications, and thus influence the community, and even confuse, blind and lead astray the judgement of numbers otherwise disposed to be docile and right-minded. But the mischief rests not here. These things becoming diffused by frequent repetition, carry with them in that very fact a sort of proof which warrants their being taken for granted; they approve themselves to the mind, and engender kindred ideas and views. Parents endeavor to realize them in the education of their children, and officious public opinion intervenes to claim that they be accepted. Thus is created a demand for certain species or fashions of education; and the demand produces a supply. Some men are found but too willing to cater to these wants, and others from an overruling necessity are forced to imitate, to some extent, their example. Hence "commercial colleges" with their pretence, academies with their sham, colleges with degrees, schools burlesquing universities, universities with A B C pupils, graduates who are only fit to enter the *curriculum*, and the general shallowness of what is called education. (The rage is to learn in the short-



est time, and with the least labor. But nothing real and solid is acquired. A little of everything is learned; at bottom nothing.)

Still all this most astonishing unreality with many of its mistakes and errors patent on its face, is termed and by very many supposed to be education. And what is more, it is not only a sober fact which stares every one in the face who investigates the question of liberal culture with a view to aid its advancement in the society in which he lives, but one of the terrible obstacles to be overcome.

Our interests in this respect, it would seem, require first, the establishment of a class of schools whose end shall be clearly understood and well defined, intermediary in their character and limited in their object, and provided with means to enable them to surmount the difficulties growing out of inadequate support, and to ensure a durable existence liable to no flux or decay from individual caprice or the accidents of life, so that they may attain, as near as may be, the end for which they are established. We need a class of schools which will provide for our youth what Eaton, and Harrow, and Rugby, and the German Gymnasia provide for the English and German—a class of schools in which they may be judiciously and thoroughly trained within the limit of the studies proper to such institutions, and sent forth to enter the *curriculum* of the university, or to begin the world if their schooling is to end with their fifteenth or sixteenth year; and *next*, a university—one *real* University in the West.

Education is not the juxtaposition of disjointed, disconnected or incongruous parts, but a homogeneous whole. It starts from a central point, proceeds on certain well settled principles, and advances by rule. These schools, or gymnasia, or colleges, are part of the system. They take up the work where rudimentary instruction ends, and carry it forward to the point where liberal culture properly begins, and no further. They make no pretence of doing what they are



not intended to do, and cannot do. Their aim is to train thorough, not superficial students; to turn out youths, who cannot pretend to many things, but who will really know what they assume to have learned, who have advanced step by step mastering and assimilating their knowledge as they progressed. Nor does any part of this training unfit the youth for any career in the world. None of the studies in this system in case the pupil does not wish to go beyond the school, is lost. For whatever may be said about classical studies by the conceited or the ignorant, it is certain that properly pursued, and so far as pursued they are a positive and an immense advantage, of real, tangible, positive use in after life. As the ink dripping from the pen stains the paper, leaving upon it indelibly the impress of the writer's thoughts, so do these studies impress upon the mind characteristics peculiar to themselves, and tend to develop desirable qualities beyond what any other studies pursued to the same extent can or will.

The classics, mathematics, the vernacular, some foreign tongue, and a science, chemistry or physics, in its elements, comprises about all that is taught; and it needs no venture to affirm, since experience is at hand to prove it, that a youth at twenty, whether he has gone through a full course or not, educated under this system, will compare advantageously, other things being equal, with one of the same age trained under any other.

A great mistake of our day, and the error is deep and widespread, is the notion that there are no fixed, no long-settled principles of education, but that the mind of the youth may be equally well trained under differing and clashing systems—systems whose starting points are the unqualified negation one of the other. If education be, as it is, the disciplining and the formation of the mind, it is evident, since in the average minds are alike, that what is suited to one must be suited to another. What every one must desire is a trained and formed intellect; now the acquirements and the quali-

ies which combine to produce this intellect, are precisely such as are desirable in any walk of life; and the question is simply what course of studies best serves to promote this end. Here is the beginning and immediate end of education; and to attempt to introduce into it arts, and trades, and business pursuits, or "commercial education," as it is called, or practical education, as it is termed, is simply an absurdity. It would be just as sensible to attempt carpenter education, and shoemaker education, and so on to the end of the list of the thousand pursuits of men. We do not say that "commercial education" so termed, so far as it goes and so far as it is education at all, is not good; but for the most part what goes under this name is a pretence and a sham, one of the unrealities of the day.

The drift of these remarks does not imply that our youths are to be trained only to make *scholars* of them when grown men. On the contrary, we have distinctly said that liberal culture is the lot of the few, and we are just now speaking for the many. But we have been contending that it is the interest of the West, to build up a class of schools, which meet a want, which are part of a system, which render a double service by instructing solidly, really educating, as far as they go, those who for one or other reason, do not desire to pursue their studies into the higher branches of learning, and at the same time putting forward those who intend to complete their course—a class of schools without which a university is an impossibility, and liberal culture unattainable.

Nor are we condemning such schools as do the work of "commercial colleges;" aside from their quackery and sham they may serve a useful purpose. But they stand apart, by themselves; they form no part of any system of education. They may be regarded in one respect as sops to Cerberus; they bend to the notions and flatter the prejudices of such as are willing to accept the shadow for the reality.

There is a very large class of boys who are destined by

their parents to receive simply what is called in England a *good English education*, with the addition of French or German; and who, without any pretense to scholarship may, and often do, become well informed, well read, and as the word goes, well educated gentlemen. The schools, colleges or gymnasia, be their name as it may, of which we have just been speaking, will by a course parallel to that pursued by those who are aiming at the highest education, serve this purpose. So far as mathematics, the study of any science, a foreign tongue, and the incidental studies of history and geography are concerned, the course should be identical."

In conclusion permit me to say, that while many good and faithful, earnest workers in our ranks have had very few early advantages, like your speaker, and some of these men have by dint of hard work and hard study gained respectable distinction among their fellows, the great majority, have remained in ignorance and obscurity. If we had all enjoyed the opportunities that are *now* afforded to our young men, we might have been much more useful, to our patrons, and creditable to our profession.

The Dentist should be a good, honest, faithful, polite, intelligent, courteous man. In a word, he should be a christian gentleman.

And finally my brothers, if I have succeeded in these remarks, in inspiring you with more zeal in the cause of Dental education, or in causing any, even one single young man to determine that he will lay hold of the opportunities now afforded and make a first class Dentist of himself, by a thorough preparation and a faithful performance of his duties as a Dentist, then I have not spoken in vain; and you have not given me such patient and respectful attention for naught.

## HEREDITARY INFLUENCES ON THE TEETH.

BY HENRY S. CHASE, IOWA CITY.

Read before the Iowa State Dental Society, July, 1867.

THAT like produces like is a great natural law. Facts are too numerous and plain to doubt it. That there are seeming exceptions does not in the least disprove the assertion. Even when the progeny is not like the parents, it is still like a grandparent, uncle, or some other ancestor.

It is a wonderful thing that the germinal cell of an animal should be able, by cell multiplication, to make a being with all the organs and functions of the animal of which it is the type. Yes, this simple cell, with its nucleus and nucleolus, is the exact type of the animal which produced it, although the best microscope in the world would fail to discover to us, in its cell formation, the least resemblance to the animal which it yet truly represents in anatomical form, function, and often resemblance of features, and minute accidental or acquired peculiarities in body and mind.

Even after the spermatozoon has exercised its force on the ovum, the latter presents no different appearance under the microscope, from what it had before its fructification.

When this typical cell of the ovum is impressed by the vitality of its conjugal cell or spermatozoon, the new being may grow from the type of the father or the mother, or from both, according to the mutual impressions produced.

The inherent typical forms, residing in these cells of the male and female, are spiritual, magnetical, or at least imponderable and invisible. Each cell has its own peculiar power or *force*. If the force of the spermatozoon overcomes that of the ovum, then the new being will grow according to the prototype of the former; and so if the ovum cell has the strongest or most persistent force at the time of the conjunction of the two cells, then the new being will retain the type of the female. If the prototypes of these cells, or in other

words, the father and the mother, are precisely alike in every respect except sex, then the new being will be precisely alike both of them, no matter what may have been the relative forces of the two at the time of their conjunction.

The most usual result proves a commingling or union of the two forces, in equal or different proportions, so that the progeny has some of its anatomical forms and functions like one parent, and the remainder like those of the other parent. A child may have the locomotive apparatus and the head like the father, and the vital apparatus like the mother, and so contrariwise.

Typical cells (ovum and spermatozoon,) are constantly subject to the magnetic influence of their prototypes. And this changes more or less with the changes taking place in the body and mind. And this magnetic influence has greater or less force on the cells, according to the strength of its persistence. Let us take a familiar example: A temperate man or woman becomes intoxicated for once only. The impression will have but little persistence. It will not have persistent force enough to change the typical magnetic form of the germinal cells. But let this person become a habitual drunkard, then the typical cell is so powerfully impressed by the prototype, that the magnetical form of the latter is impressed upon the germinal cell so powerfully, that it must in the act of reproduction make the new being with the depraved appetites of the parent. This is the more surely the case when both parents are depraved. How often are even the peculiar idiotic features of the drunkard reproduced in offspring!

Beauties and defects then, of both body and mind, are sure to be reproduced in progeny. Observation has taught this independent of theory.

In our own vocation we see this daily exemplified in the teeth of our patients. We see it in form, location, quality, color, &c., &c. Let us take three generations, subject to



precisely the same influences of climate, diet, hygiene, health, and marriage, and we shall find the dental organs all *precisely alike*. The child, father, and grandfather will have teeth all equally good. So on the maternal side.

But supposing the grandparents have good teeth, together with good health, habits, &c., &c. *Their* progeny will also have them by inheritance. Now if this second generation fall into bad habits of health, hygiene, diet, &c., the teeth become decayed, and if long remaining so, together with abnormal habits, then the typical cells of this generation will be permanently impressed with a depraved form, which will be sure, on reproduction, to cause the third generation to inherit and possess abnormal and defective dental organs. Now, by *reformation* of habits, in hygiene, diet, and health, this *third* generation can impress its typical cells so powerfully that it shall be able to transmit to the fourth generation a *better* if not a perfect Dental organization.

If one set of influences can degrade and destroy the teeth, an opposite set of influences can restore them to perfection in the next generation.

## Proceedings of Societies.

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### THE CENTRAL OHIO DENTAL ASSOCIATION.

THE last meeting of this Association was held at Galion, Ohio, May 14th, 15th and 16th, 1867. A full attendance, interesting and instructive essays, able discussions, subjects of interest to the Dental profession, and a free interchange of views, with a kind, brotherly feeling prevailing, made this one of the most pleasant, as well as the most interesting meetings of the kind we ever had the pleasure of attending.

The following are the names of the officers elected for the ensuing year :

*President*—Dr. DeCamp, Mansfield, O.

*Vice-President*—Dr. C. M. Kelsey, Mt. Vernon, O.

*Secretary*—Dr. M. A. Spencer, Doylestown, O.

*Corresponding Secretary*—A. W. Maxwell, Galion, O.

*Treasurer*—Dr. H. M. Edson, Mt. Vernon, O.

Upon the close of a spirited discussion as to the conduct proper for a Dental practitioner, it was decided strictly unprofessional for a Dr. of Dental Surgery to travel from house to house, to solicit or perform operations, and we hope this may serve as a rebuke to some, (not members, however; they would not be allowed to do so) who are now doing this.

The following are the names of delegates elected to represent this Association in the American Dental Association, to convene in the city of Cincinnati, July 30th, and which is composed wholly of delegates from the different State societies :

Drs. E. Chidester, H. H. Harrison, A. W. Maxwell, W. E. Dunn, S. D. Stewart, J. M. Rhoads, G. W. Decamp, H. M. Edson, J. B. Beauman, M. A. Spencer, S. Wagoner.

Some able essays were read, for which the readers received votes of thanks, and which were ordered published in the DENTAL REGISTER, after being thoroughly discussed. A paper was read by Dr. G. W. DeCamp, entitled "Red Blood Globules," which called forth quite a discussion, joined in by Drs. Barber and Duff, physicians of Galion. "Dental Caries, its Causes and Arrest," was one of the regular subjects of discussion. It was ably discussed by many of the members, and no doubt all gained some valuable ideas.

Want of space will not allow further mention of this meeting, but suffice it to say, the Association finally adjourned, to meet in Akron, Nov. 12, 1867, and all returned to their offices and to their labor, refreshed and encouraged, and we hope, determined to study, as well as work, and strive to reach a higher position in their chosen profession.

M. A. SPENCER, *Secretary*.

## Editorial.

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### THE CODE OF ETHICS.

ALL our readers are aware of the fact that the American Dental Association, at its meeting in Boston last year, adopted a code of ethics, a draft of which was prepared by a committee of three members appointed by the Association. The report of that committee was discussed, amended and adopted, and is now to all intents and purposes the code of ethics of the American Dental Association.

Within a year after its adoption by this body many local societies also adopted it, and several have had occasion to avail themselves of its instrumentality for their purification, and in every case with the most happy results. This code consists simply of plain and obvious rules and regulations of professional conduct and demeanor.

We think it is of such character that no truly professional man could object to any of its provisions. The empiric and quack do object, and strongly too, as bad men will always object to wholesome laws.

This code now stands, and will till it is revoked, as a part of the law of this national association, and is binding upon all its members as certainly as any of its other provisions; and yet, though strange it may seem, the same body, at its recent annual meeting in Cincinnati, refused to require or even recommend, local societies that are to be represented in this body, to adopt its code of ethics.

Is the American Dental Association ashamed of a part of its own good and wholesome laws and regulations? Or is it desirable to have some members in that Association who will not conform to the code of ethics? But every one who becomes a member, becomes subject to that code, as certainly and as definitely as though he had been present, and voted for it at the time of its adoption, just as clearly as he is subject to its constitution.

The formation and adoption of this code does not in one iota, nor was it intended to restrict in any sense, any just and honorable man in the profession. Good laws are made, in one sense, for transgressors, and they only condemn and despise them.

One object aimed at in the adoption of this code, was that the profession might have uniformity and harmony in this respect. The greater uniformity there is in the rules and regulations of any association or body of men, the greater will be their strength. Division and diversity is the embodiment of weakness.

At the recent meeting, one of the arguments presented against the recommendation or requirement proposed was, "that the American Dental Association has no power to determine who shall be its members, nor to define their character," and this too, notwithstanding the constitution says, "the members of this Association shall be exclusively practitioners of Dentistry," and the by-laws in the third section say. "any act of special immorality or unprofessional conduct, committed by a member of this Association shall be referred to the Committee of Arrangements, whose duty it shall be to thoroughly examine into the case and report at the next meeting, if the charges be sustained. Whereupon, by vote, the offending member may be reprimanded or expelled, a two-thirds vote being required for expulsion, a plurality being sufficient for reprimand."

Thus the falsity of that argument appears from the very letter of the law itself. And again, reason and fact both teach us, and every one knows, that there is no association or associated body of men extant, that does not reserve to itself the right to determine the character of its members. This is true all the way from the highest to the lowest, and from the best to the worst.

Again, it was said "the matter of determining who should be members, or their character, should be left entirely in the hands of local societies."

This argument is equally fallacious with the other, both in theory and fact. It is false in theory, for the very means of confining all such determinations to local societies was refused, by not requiring all societies having a representation in this body, to adopt the code of ethics. The responsibility of excluding all unfit members from this body, would be thrown upon local societies, had the Association adopted the amendment under con-



sideration. Again, the argument was falsified by the Association within a few moments of its advancement; for about that time a committee of five was appointed to examine and report upon the fitness or unfitness of one who had been delegated to become a member, and they did examine, and thoroughly too, and made a most scathing report, refusing the delegate admission, and involving not only him, but all those associated with him, as unfit to become members of this Association; and this report was unanimously adopted by this Association, after having voted against the proposed amendment, influenced no doubt by the arguments quoted above, and worse ones. One prominent member said he had never heard of a code of ethics having been adopted, till within a very short time, and had never seen it, therefore he should vote against it. Query? Was he prepared to vote intelligently against it?

A very respectable number of our local societies, we think a majority, have adopted the code of ethics, some have not; two, we believe, have rejected it. We cannot but wish they occupied a different position, in reference to which we may have something to say in future.



### MAD RIVER DENTAL SOCIETY.

THE regular quarterly meeting of this society was held on the 3d inst., at Springfield, Ohio. There was a good attendance of the membership. A very interesting programme of subjects was presented for consideration and discussion, into which the majority of the members entered with spirit and earnestness, and thus demonstrated that it truly lives and possesses a power for good within the sphere of its influence, not excelled by any other society. It is truly gratifying to observe the progress demonstrated by a comparison of the subjects now presented for discussion and those of former times, as well as the character of the discussions. Association has been one of the chief instrumentalities in the elevation, growth and development of our profession. The work accomplished by this agency cannot be performed by any other.

There is a grand indication in the fact that new societies are being organized more rapidly than ever before.

## NITROUS OXYD AGAIN.

On the 14th and 16th of the present month we witnessed a complete demonstration of the fact noticed in the first article of this number, viz.: that the patient speedily returns to consciousness while breathing the gas. A patient's knee had been flexed for many years, for the last few to a very acute angle. She took the gas, and the tendons were cut. She took it again and again, that intermittent efforts might be made to straighten the limb, taking it thus four times on the 14th, and three times the 16th. In every instance the anæsthesia was prompt, and the return to consciousness speedy, although the inhalation of atmospheric air was rigidly excluded.

On the 14th, the patient breathed at the rate of twenty inspirations to the minute, till about the twelfth inhalation, and then suddenly dropped to eight or ten to the minute. On the 16th, the change in the character of the breathing took place about the eighth inspiration; and there was a correspondingly earlier return to consciousness. In two or three instances, she breathed nothing for over twenty seconds, yet the countenance and capillary circulation showed no signs of defective oxydation of the blood.

So little constitutional disturbance occurred that the patient, each day, enjoyed a good dinner within a half hour from the close of the operations. We are not giving a report of the operation. That belongs to the surgeon in charge. We are trying to give light on nitrous oxyd.

W.

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J. M. BROWN.

OLD Father Time, in our boyhood counted an hourglass and scythe a full outfit. Now he carries a gold repeater, and rides on a self-raking reaper; and that is the reason we have to be so busy, and in such a hurry, to get our little chores done by the time he announces that "the harvest of the earth is ripe." And may be that is the reason Dr. Brown no longer keeps a Dental Depot. He brought that to a regular system, and trained others to take his place. Now he hurries up his other chores; for the Doctor is still full of business, and our busy world, by no means loses his services. Those of us who have grown gray while patronizing Dr. Brown, will ever miss his genial smile, his cordial greeting, his ready repartee, and mirthful humor. In retiring from the profession he has so long served, the Doctor will carry the kindest regards of his former patrons.

W.

## REPARATORY.

OUR friend Dr. Arrington thinks we did him injustice in our "one more unfortunate" article in the August number. We are sorry. He states that he did not urge, as a claim to favor, that Lamm's gold could be used under saliva. We heard that claim repeatedly urged in its favor at the Boston meeting; and were honestly believing that he pressed this claim. But it seems we were mistaken; and we are glad of it. As he is opposed to having the gold thus *baptized*, we had no right to call him its "godfather," and hereby retract the misnomer. Whenever it is claimed that wet fillings are good, the inexperienced are led astray, the lazy and unprincipled take courage, patients are deceived, and teeth are lost. To prevent this was our sole aim in that "unfortunate" editorial. W.

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## NEW FIRM—OLD DEPOT.

THIS is a world of change; but we suppose our readers like ourselves, regarded Brown's Dental Depot, at the corner of Fourth and Walnut as an exception. It, too, has changed. Dr. Brown has retired, and is succeeded by MESSRS. HARVEY, PEIRCE AND CUTTER. The two latter have been in the establishment for some time, and are consequently well acquainted with its patrons and their wants. And besides, Dr. Peirce, by travel and otherwise, has become very extensively and favorably known by the profession. This *oldest* depot of the West could not have fallen into better hands. The new firm is energetically at work, refitting, and adding new stock, giving evidence of a determination to be surpassed by nothing of the kind East or West. Our readers need not be told to give them a trial.

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## PERSONAL.

OUR readers will be pleased to know that our friend Mr. JAMES LESLIE, is again at his post after a pleasant visit to Europe. He was, of course, at the World's Fair, also in England, Scotland, etc. He could tell us much about the state of the profession in Europe, and when he gets his private matters straightened up a little we hope he will do so in the pages of the REGISTER. In the meantime you can call and hear him speak for himself.

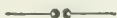
# THE DENTAL REGISTER.

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## Original Communications.



### DENTAL NOMENCLATURE.

BY DR. L. C. INGERSOLL, KEOKUK, IOWA.

Read before the Iowa State Dental Society, July, 1867.

IN making this report on DENTAL NOMENCLATURE, I have named some principles of nomenclature, I have made comparison of scientific words in Chemistry and Dentistry with these standards, I have criticised the use of a number of words commonly occurring in our Dental Literature, I have suggested some modifications of terms, and the cautious introduction of new words; and, lastly, I have protested against cumbering and mystifying Dental Science and Literature with strange and unmeaning words.

Words are the repositories and vehicles of thoughts. Words contain ideas and transmit them through the ear, the eye, or the blind man's touch to the mind. By words, the thoughts of the ancients came down to us. Words are the resurrection bodies of their ideas. In words we embalm our own thoughts, our own conceptions of things for posterity. The pen and the press are busy, day and night, everywhere where words are uttered or thoughts are breathed, to render them in imperishable forms for after generations.

Dentistry is the latest born child of Science. To Dental nomenclature is entrusted the naming of the facts, principles,

tissues, structures, forces, and functions which are involved in the science. No sooner was this world created, with its grand array of classed and clustered things, than Adam was made a *nomenclator*. Reptiles crawled to him for a name. Insects whispered in his ear for a name. The first animal cry, of whatever kind, was for a name. It is not a matter of little importance in the creation of a new science, arraying before the world a series of newly discovered facts, that they be properly named, that each should be individualized by a name, that every newly discovered principle, and every infant thought conceived by truth should be appropriately named from birth. Principles never die; facts are eternal. For these reasons they should be truthfully named. Nomenclature, therefore, lies at the very foundation of the exact sciences.

I cannot expect in a brief paper on Dental Nomenclature to do more than to preface a broad and deep subject which demands a library volume from the most critical and scholarly minds of our profession. I am sensible, too, that so grand an achievement for our Dental literature cannot be compassed by any assembled body of the Dental profession, however respectable in numbers and talents, less than the representative whole, the great and honored AMERICAN DENTAL SOCIETY.

Here the reform can but be initiated. Its progress must be through the received channels of professional opinion, where the coin of our Dental literature is stamped, and where philological weights and measures shall give their syllabic test.

Science demands exactness of terms. This demand is increased in proportion to the similarity and the variety of the facts and principles developed. Chemistry, which in its progress developed so rapidly an astonishing number of elemental facts, suffered greatly in its infancy for want of a suitable nomenclature. In 1789, the French chemists Lavoisier and Berthollet and their associates, revised the



nomenclature of the science, banishing the barbarous and fanciful names which had been introduced, and instead, giving significant and meaning names to all newly discovered substances, leaving only the longest known of simple substances to be recognized by their old names.

It is greatly to be regretted that some elementary substances prevailing everywhere in nature should have been permitted to travel so far on their pilgrimage along the track of time without appropriate, descriptive names. *Magnetism* is an example of this class of words. Perhaps it would be foolish now to change the name of that peculiar property of the lode-stone. It was called magnetism for the simple reason that the ferruginous ore having this property of imparting attractive power and polarity to iron and steel was first found in a locality in Asia Minor, known as Magnesia, called by the Greeks *Magnes*. So also did that tasteless, inodorous powder, sold in the shops as magnesia, derive its name from the fact that the primitive earth was found in the locality of that name. When science had discovered the peculiar properties of this magnesian ore to polarize the needle and guide the commerce of the world, Galvani, or Volta, or some one of their peers, should have given it a new name, expressive of its most obvious property; a scientific name in place of its historical name.

There is a deal of sense in calling things by appropriate names—names that imply the discovery of some elementary features which identify this substance and that, and distinguish one from another, as the prominent features of the human face distinguish one man from another. When we remember that the facts of science can live only in words, that ideas can be transmitted from generation to generation only through the media of words; we can see the importance of giving to scientific terms the fullest and completest expression of meaning. In this way only can those coming after us learn of us and comprehend, at a glance, the nature of the facts which we pretend to have discovered.

In the choice of words for the expression of scientific facts, certain obvious rules should be observed. The cognate sciences, anatomy, physiology, pathology, medicine and surgery, which had developed a good degree of maturity before Dentistry was named as a science, are not wanting in a vocabulary of meaning terms from which Dentistry may with much advantage borrow. Dental science, so nearly allied to those which are accounted the noblest and the worthiest that have ever engaged the thought of man, may well feel proud enough of its relations to desire to perpetuate the family names. Here is one chief source of Dental names. Wherein these cognate sciences fail to furnish our Dental vocabulary, by reason of discoveries which reach beyond their scope, we are at liberty to borrow from other sciences where there exist facts so strikingly analogous to the facts of Dental science, as to make it eminently appropriate to use the same form of words in expressing both. This is our second legitimate source of the derivation of Dental terms.

A third means of supplying our Dental vocabulary is by compounding words of definite meaning in general science and art, to form a more complete idea of something in our particular science. A fourth, and the last which I mention, is the coining of new words. General literature, with its varied aims and almost endless variety of methods of arriving at its results, giving unrestrained liberties of trope and figure, may legitimately use new coined words, leaving the meaning to be inferred from the general drift and the connection of thought. But the temple of science can be built only of hewn stone. Words must be sharply defined, and possess a well understood significance, before they are enshrined as the symbols of our thought, or made the monuments of our cherished ideas. Science will never allow the coining of words. Its aim is to teach. Scientific words must, therefore, have in their elemental structure, at least, a definite meaning.

Among all the sciences, chemistry, though faulty still,

furnishes us the most systematically formed vocabulary of meaning terms. Words are there made to sparkle with the prominent facts of the science. Pronounce the word *oxygen*, and one of the most commonly observed facts of chemistry is revealed in the name. *Oxygen* is from a Greek word which signifies the acidifying principle. The tendency of the oxygen of the atmosphere to develop acid in so great a variety of substances in common use, led to the giving to this gas the name it bears. The gases early discovered were colorless. When a peculiar gas, colored green, was discovered, the peculiarity of color gave to it the name *chlorine*, which signifies green. These two words serve to illustrate the principle in nomenclature of giving to substances such names as declare one or more of their most observable qualities or properties.

In Dentistry this principle is measurably carried out. Our professional name *Dentist*, and many derivatives from the same root, *dens*, are legitimate and truthful. So also are the names of the different teeth, based upon their formation and uses. The exception in the case of naming the teeth, in a scientific point of view, is in the name of the last tooth developed, commonly called the wisdom tooth, *dens sapientia*. Better to follow the analogy of nomenclature and call it the third molar.

The word *tartar* is objectionable as a scientific term by reason of its untruthfulness, conveying the idea of an acid formation. The term originally applied to the deposit of tartaric acid on the inner surface of wine casks. To call it *calculus* seems a better naming for the reason that it conveys a truthful idea of its principal constituent, *lime*. *Salivary calculus* renders the name more complete by representing its concretionary formation from and with the fluids of the mouth.

The term *erupt* is a disgusting word, and should have no place in our vocabulary as a representative of a physiological process. It belongs to pathology, and should never be bor-

rowed for our Dental science. For what is its signification? Its original signification is a sudden breaking forth and emission of any thing from confinement, as of lava and flame from a volcano, being peculiarly applicable to fluids and semi fluids. In its application to medical science we have the name *eruptive fever*, very appropriately so called. *Eruptive humors*, the breaking forth and excretion of humors on the skin, as in measles and small-pox. Why transfer this disgusting thought to the pleasing sight of the development and emergence of the human teeth? These latter terms express our meaning, implying a gradual expansion and growth, and starting into view. The teeth come up in striking analogy to the coming up of grain and other seeds. But who would think of speaking of an *eruption* of a field of corn? Or an *eruptive* melon patch?

The word *fang* is similar to the word erupt in its unpleasant and revolting associations, and is further objectionable in the anatomical and physiological falseness of the idea it conveys.

Some years since I penned a criticism for the *Cosmos*, on the use of this same word. For the sake of making this article more complete, I shall be excused for repeating, in part, what I then wrote: when and by whom this word was so unwarrantably foisted into medical and Dental literature does not appear.

*Fang* is a common word of well defined meaning, borrowed from Natural History, but in utter violation of all rule and license. It has in its signification something frightful and repulsive, as a something pointed to thrust, seize, lacerate, rend, or poison. It is proper to call the tusks of a wild bear or wolf, or the poison teeth of a serpent, *fangs*. It is also proper to call the talons of birds of prey, of cats, and of lions, *fangs*. But who has ever perceived any appropriateness in applying this old Saxon word with its repulsive meaning to that which is more familiarly known as the *root* of a tooth? With much greater propriety might we call the

instruments with which it is extracted, *fangs*. The term *root* may or may not be the best term to name that portion of a tooth found within the maxilla. It is certainly not inappropriate in its signification. For like the root of a tree, it is both a functional and a mechanical support. Like the root of a tree, it is covered and excluded from external influences, but holds vital relations with its immediate surroundings. Like the root of a tree or plant, it has absorbents, vessels, tubuli through which pass and repass the nourishing and waste fluids. Like the root of a tree, it supports the body of the tooth in firm position against any power tending to topple over or dislodge it. A child turning from his lesson in Natural History might well shudder at the account of *fangs* in the masticatory organization of one of human kind, and very naturally conceive the operation of extracting these to be like the dangerous effort to snatch out the poison teeth of a serpent, or break the weapons of a wild boar.

*Pulp* is another word in such general use by the profession, that it seems now almost too late to ostracise it, or even to criticise it. But as we are favored with other names of the same organ which indicate its alliance with a grand and wonderful system, I hope that prejudice and precedent will not bind us too strongly in favor of an objectionable term. Its primitive signification is that of something disorganized, soft, compressible, and yielding readily to the touch. Led by this signification, semi-fluid and fatty substances are called *pulp*. The material of which paper is made, when ground up into shreds, and mingled with a watery sizing, is called *pulp*. An apple in a state of decay is called *pulp*. No one will dispute this literal signification of the term, nor its peculiar appropriateness in the cases above mentioned.

The objection which I urge to its use as a Dental term is that it degrades the nature of the organ which it names, by robbing it of its vital functions and its important relationships. The delicate, sensitive, highly organized nerve tissue, given the pre-eminence of a seat in a beautifully built house



of ivory, overlaid with pearl, is almost the only vital organ with which we as Dentists primarily have to do. Its obscure retreat, and its almost microscopic line of connection with any important system of the human organism, was unfavorable to the early investigation of its nature and relations. The Dental organs have asserted no special claim to science, and had taken rank not at all as separate organs, but only as a part of the bony structure protruding through the fleshy covering of the body, a part of the bony framework which, like some of the framework in the ruder styles of Gothic architecture, remained uncovered and exposed to view. Its alliance to the bones of the body being *thus* regarded, it is natural enough that the contents of the tooth-bone should be regarded like the contents of other bones, as *marrow*, *pulp*. But when, on later investigation, it was discovered that the teeth had a claim of superiority to other bones, so distinct in their substance and nature as to be no longer called bone, but *dentine*, it was also discovered that the central cavity of the teeth was occupied by a distinct organization, differing almost infinitely from the dead fatty matter centrally located in other bones. Why then, in the name of science, could not this insignificant, degrading word *pulp* have been dropped? Why not call the brain *pulp*? Why do we not say of this or that distinguished man, that he has a well developed *marrow*, a very intellectual *pulp*? For the plain reason that it sounds ludicrous, that it belittles the conception which we have gained of the nature of the organ, that it vulgarizes the crowning organ of man's physical nature to mere gelatinous fat.

Another false, objectionable word has crept in through the Dental laboratory; has been borrowed from anatomical science to grace our glossary of mechanical terms; has arrived at the pinnacle of unquestionable right and authority by occupying a place in our Dental Dictionary: the word is *articulate*. The use of this word has one and only one correct application in mechanical Dentistry, and that is to the union

of the teeth to the base plate. *That* joining may, with some propriety, be called an articulation. But it is almost never thus applied. Nothing can be more improper than to speak of the occlusion of the teeth upon each other as an *articulation*. In both anatomy and botany, where the word is at home, it means a union by joints. The different methods of joining named *diarthrosis*, *symphysis*, &c., are different methods of articulation. But in every case it implies a *union*, either movable or fixed. The error, however, in the use of this word is comparatively of slight importance.

In adding new words, and in making modifications of words, great caution is needed so as not to multiply terms needlessly. We do need the introduction of a few new terms to cut short a circumlocution of words now in use to express simple processes, such as the passing of fluids through a porous body. When in the decay of a tooth the mineral portion has been dissolved, leaving the animal portion, a porous structure through which the fluids of the mouth pass to irritate the nerve, a word ready formed which expresses this is *osmose*. And the passing out from the nerve cavity of fluids or gases through such porous structure is well expressed by the correlative term *exosmose*.

*Dentogeny* is a faithful word signifying the *formation of the teeth*.

*Dentography* is perhaps a needed word, meaning a *description of the teeth*.

*Dentification* for ossification is a desirable change of terms, preserving fully the analogy of a large class of scientific terms already generally adopted by the profession. Another desirable change is *peridenteum* for *Dental periosteum*.

The form of words *mallet pressure* is a contradiction of terms. The word *impact* expresses the idea fully, meaning *condensation by light quick blows*. Thus an impacted filling is one made by light blows of the mallet. Thus far will suffice in scanning the faults and needs of our Dental literature.

I cannot conclude this report on *Dental nomenclature* without uttering a protest in the name of Dental science and literature, against the useless multiplication of technical terms, against cumbering the science with new-coined and meaningless words, against mystifying primary and simple truths with the phraseology of half fledged thought; against putting into the crucible with the refined gold of our science, all the crudities of other sciences, together with the base ores of addled brains too worthless to be accounted as even the dross of good metal. It is to be feared that the editorial corps of our standard literature have yielded too far in their respect for varied learning, and for enthusiasm and zeal in the pursuit of science to dare to sift the pages of their worthy contributors, sending their chaff to the winds and preserving only the sound wheat for their garnerers.

Some of our most gifted writers seem to be more gifted in words without meaning than in words with meaning, more gifted in befogging a truth than in shedding light upon it, more gifted in mystifying that which before was plain than in bringing into distinct view that which was before obscure or hidden. In an article of several pages published not long since, in one of our standard Journals, there occurred as many words as there were pages, which were nowhere to be found in Webster, Harris, Hooper or Dunglison! Into what depths of lore must the writer have gone to find those mysterious terms! What a balloon ascension must he have taken to crown his topmost ideas with those out of sight words! The soundest learning is found in words having a well understood meaning. If we would preserve our literature from ridicule, if we would hand it down to posterity as the garner house of what is known to the Dental profession, and what is sought after, we must keep out of it what we too often find, and which we can most fitly characterize as conglomerate thought, befogging phraseology, mysterious terms, hair-splitting theories, commingling of science with all the ancient *ologies* and *isms* that have bewildered mankind

from the foundation of the world, and instead give to its pages a clear and lucid presentation of what is desirable for us to know and posterity to learn.



## MANAGEMENT AND BEST MEANS OF PREVENTING THE DESTRUCTION OF THE DECIDUOUS TEETH.

BY DR. FRANK FRENCH.

Read before the Western New York Dental Society.

IN treating this subject I wish, in the first place, to go directly at the root of the matter, viz.: the formation of these teeth. At as early a period as the sixth week after conception, the preparation of a receptacle for the deciduous teeth can be discerned in the foetus, consisting of a deep groove extending around each jaw, lined with mucous membrane, the posterior part of which is divided by a small ridge into two grooves, and as the germs of the teeth appear in the inner one, it is commonly called the primitive dental groove. By the seventh week a small substance in shape like a grain of wheat lying on its side, makes its appearance in the dental groove in the upper jaw, rising up from the mucous membrane, and is the germ of the first temporary molar. In the eighth week the germs of the temporary cuspidati make their appearance in a rounded granular form. The germs of the incisors show themselves during the tenth week, the central first, and soon afterward the lateral, in the form of mucous papillæ. The sides of the groove in the region of the temporary molar are now approaching each other, and during the tenth week processes are sent off from its sides, before and behind it, inclosing it in a follicle or cavity. At the same time the cuspidate is being likewise inclosed. Near the close of the tenth week, the germ of the second temporary molar shows itself. Up to this time the germs of the incisors have advanced slowly, but now begin to grow rapidly, and during the eleventh and twelfth week they are also each inclosed



in a separate follicle in the same manner as the others. The second molar is also increasing, and during the thirteenth week is also inclosed. All the germs now begin to take shape, the incisors like the future teeth, cuspidate, form of cones, etc.: during the fourteenth week the lips of the primitive dental groove meet together almost like valves, so that the germs of the teeth are almost hidden. It is about this time that provision is made for the production of ten anterior permanent teeth, and consists of crescent shaped depressions immediately behind the inner covering of the follicles or cavities which inclose the germs of the temporary teeth; first the centrals, then laterals, cuspids and first bicuspid. The dental groove is now soon closed by the adhesion of its lips and walls, and changes its follicles into sacs, the germs into the pulps of the temporary teeth, and the crescent shaped depressions into cavities of reserve. from which the sacs and pulps of the permanent teeth are developed. At the fifth month the germs of the permanent teeth first appear, and at the sixth month bony septa are thrown across the alveolar groove, and little cavities are now formed on the posterior walls of the alveoli for the sacs of the permanent teeth. It is not necessary to follow on through dentification, formation of enamel and the various stages until the tooth is erupted; and my only object in referring to it at all is, to show at what period of intra-uterine existence the formation of the teeth begin, as I wish to show that at least one of the means of preventing the destruction of the deciduous teeth may be used at as early a period as the teeth begin to form. Let us look for a moment at a tooth, and see what it is composed of. Take the dentine: First, and we find phos. lime 62, fluat 2, carb. 5.5, phos. magnesia 1, soda and muriate soda 1.5 gelatine and water 28. This is from dentine as found in the mouth. When dried it varies slightly from this. In the enamel we find phos. lime 85.3, fluat 3.2, carb. 8, phos. magnesia 1.5, soda and nitrat soda 1, animal matter and water 1. Thus in the dentine we find 72 per cent. of inorganic matter, in the enamel



99 per cent., and in the cementum 7 per cent.; so that in the structure of the tooth there is 83 per cent. of inorganic matter, over two-thirds of which is phosphate of lime. In order to have a healthy solid tooth structure, capable of resisting the action of external agents, it is necessary that the system should be well supplied with the materials for construction; and nature has provided that it should be received through the medium of the food. We do not ask or expect a man to build a large solid building with nothing but sand and lime; but it would be just as reasonable as it is to expect nature to perform her work well with the materials that are furnished her. What is usually the food of a woman during the period of gestation? As soon as she knows she is pregnant she begins to be notional, or thinks she must be; her appetite is fastidious and must be tempted, and the whole round of cookery is brought into requisition to satisfy it. Sponge cake, pound cake, cream cake, fruit cake, of which a good sized cake would be almost certain death to the best ostrich that was ever made, and an endless variety of what are usually termed nice things, all made very rich and from the very finest of flour, which is well known contains hardly any of the phosphates. I think that a large proportion of the food of the females of the better class during this period is of articles made from fine flour. Tea is also usually drank in large quantities, and sometimes beer and wine, neither doing any good and productive of harm to the child. Again, she has a morbid appetite, and yearns, or as it is usually termed, longs for things which never ought to be eaten; and because she longs for them must have them, or the child would be marked with the article for which she longed. I knew of a lady in this condition who longed constantly for cauliflower, subsisting almost entirely on this and bread and tea for weeks, her husband scouring the town from one end to the other to procure it, until the poor man became almost certain that the child would be born with a cauliflower in each hand, or at the best would be a cabbage head. The

larger portion of the food taken at such times does not contain the material to produce good healthy bone and muscle, and the wonder is not that nature does so little, but that she does so well. There is another point which I wish to notice (although I expect some will take exceptions to it, I am satisfied there is considerable truth in it), and that is the condition of the parents when conception takes place. In many cases it occurs at a time when one or the other, and perhaps both, are in poor health, or are suffering from excessive mental or bodily fatigue, and as a consequence are not only peevish and irritable, but the whole system is deranged, and not able to perform its functions in a healthy manner; and conception taking place under such circumstances must be more or less affected by it. Again, it takes place when there is an unwillingness on the part of the mother to bear children, who, as soon as she discovers that conception has taken place, makes every effort to rid herself of it, and failing in this (the effect of which is often seen in the child) she tries to forget it by a round of fashionable life and dissipation not only endangering her own health, but entailing misery upon her offspring for their whole lives, so that from the period of conception till birth she considers it a curse, and the child is literally born with the mother's curse upon it; and thousands of such cases can be pointed out where from this very thing the child not only suffers physically, but often mentally; the curse clings to it through life. Can it be expected that nature can do her part well with no effort made to aid her, but everything against her? We treat our animals in a more rational manner than we do ourselves. Do we allow them to come together for intercourse when sick, emaciated or worn out with hard work, or over heated from exercise? By no means; it is never thought of; the utmost care is taken to have them in a fine healthy condition, and after conception has taken place they are well looked after to see that they have proper care, are properly kept and have the right kind of food. Now why do

we exercise all this care? Because we know that it is necessary for the well-being of their offspring. We want a proper development of bone and muscle and tissue, without which they would be worthless, and to secure which we are willing to take all this trouble. Now what I have to say is all summed up in this: when we are willing to take the same care of ourselves that we do of our animals, when we are willing to devote the same amount of time and study and care, to perfect the development of our own species, that we willingly give to improve the breed of our horses, when we recognize the fact that sexual intercourse was not designed by our Creator as a mere gratification of the baser animal passions, but was intended as a means for the development of the human species, when men and women desire perfect and healthy offspring, and to secure which they are willing to put themselves in proper condition before coming together to beget such offspring, and when once begotten to take proper care of the body and to partake of such food as is not only the most nourishing, but contains at the same time the requisite quantities of such matter as nature requires for the proper development of bone and muscle, and to follow them up carefully not only through the whole period of gestation, but of lactation, and also of early childhood, when we are willing to act upon this plan, then, and not till then, shall we have a perfect development of bone and muscle, such a one as will give a solid healthy tooth structure capable of resisting the attacks of external agencies, that will not only produce deciduous teeth that will last their allotted time, but will also produce solid permanent ones that with care and watchfulness will perform through life the part they were originally designed to. This I consider the best means of preventing the destruction of the deciduous teeth.

## THE DUTY OF THE HOUR.

BY DR. W. E. MAGILL.

Read before the Lake Erie Association of Dentists.

GENTLEMEN OF THE ASSOCIATION:—The remarks to which your attention is for a short time asked, in obedience to your appointment made some months since, may be somewhat rambling, and not well-digested; but will be grouped under the general head of

## “ THE DUTY OF THE HOUR.”

Commonly, the duty of the hour for each of us is, the work immediately before us. “ *Whatsoever thy hand findeth to do that do quickly,*” conveys to us the broad command and direction for our life-work, by one who knew that human existence is short, and intensely appreciated the value of moments. But there are special obligations, growing out of the relations which we sustain, as individuals to others, or as members of the profession which we have chosen for our life-pursuit, and these come more particularly within the scope of our present essay.

One of the military maxims credited to the elder Napoleon is this: “ The army which remains within its intrenchments is already defeated; ” and it sounds like an emanation from that wonderful concentration of energy and executive ability, to whose fierce determination the mighty Alps were but brief impediments, and who, in one half a short lifetime, exchanged a lieutenant’s sword for the sceptre of an empire, and conquered nearly an entire continent.

In its application to affairs purely military, the author of this maxim proved its truth. No cowering behind intrenchments, no awaiting the slow approach of an enemy; but, rather, bold strategy, wonderful marches, the sudden application of new means to attain old ends, or of old means to attain new ends. The very thunderbolt of war, he hurled his legions upon the enemy with such wild impetuosity that his name became only the synonym of victory.

In politics, who is the successful man? Not the sedate conservative; not the timid vacillator; but the bold man who plans acutely, who labors hard to adjust the right wires in the right place, so that all will pull together; who promptly takes possession of the weak points in human character, and turns them to his own account.

In religion, "The blood of martyrs is the seed of the church;" and the church militant is the church triumphant. The glory of the coming millennial time is only promised when He shall have put all enemies under His feet.

The law of progress is life, energy, activity. In God's great universe *rest* is only another name for *rust*.

From this standpoint, as members of a profession whose march is upward and onward, surveying the broad field of effort before us, do we discover anything which it is clearly our duty to accomplish?

We have to preach no grand crusade to recover from the grasp of infidel hands the holy sepulchre. It is not our duty, with lance at rest, and visor closed, to charge down upon Saracen hosts, with flying pennons and the stirring battle-cry of ha! Beauseant! But all around us are the idolatrous shrines of dogmas that should be defunct; of threadbare theories and fossilized errors, only awaiting the hammer of some bold iconoclast who dares to shiver them in pieces. And far away, over the waste of waters, out in the depths of the Great Unknown, beyond the waves of experiment and toil and tribulation and weary watching, lies the golden land of Discovery, full of all things which men desire, and with silvery sands and flickering lights awaits the coming of whatever bold Columbus shall dare the stormy main.

But the profession, equipped and militant, has some errors to combat which it may be well to particularize. And first, among ourselves, is the crying wrong of *professional incompetency*, having for its foundation the common error which supposes that any man who possesses average intelligence and mechanical ability, especially if he has learned the use



of watchmakers' tools, is prepared to open an office and successfully practice Dentistry. Now who is largely responsible for this state of things? Not the young man who anxiously, earnestly, but wearily, is plodding along the road *we* know so well; not *he* and *they*, but *you* and *I*, my brother, who, having passed the tribulations of a thorny road, fail to send back a warning voice and point to the better way, once shut, now free to all, thanks to those earnest men who open wide the doors of Dental Colleges. The extensive prevalence of this error may also be chargeable, to some extent, to the want of information, of a proper standard for professional ability in communities where the experiments of such beginners are made. But this fact comes home to us in the form of a question whether it is not our duty, each in his place, to sow broadcast the seeds of information among the people, that they may spring up and bear fruit, "some fifty and some an hundredfold." We must, each in his own way, become standard bearers, holding up our right royal banner inscribed "Excelsior," and rallying under its folds all whom word and example can influence.

Second in consideration, but hardly second in importance, is the appalling fact, that within the States which united (as I hope they will soon *all* again be), constitute our own loved land, an army of seven thousand men, in time of peace, is fully occupied as physicians, surgeons, blacksmiths, or undertakers, in treating, repairing, wrenching, or performing the last sad offices for American teeth! Underlying this awful fact is an error, or an accumulation of errors, which it is our duty to fight, as St. George did the dragon, and never be satisfied until every hydra head is destroyed. Americans have muscle, and brain, and nervous force; but have they in general bones of equal compactness, or teeth of equal density, compared with those of foreigners? Are their teeth as difficult to extract? If not, what are the causes, and to what extent can we use prevention and cure?

During the recent trial of the case of Goodyear against

Wait, in the city of New York, for alleged infringements of rubber patents. Thomas R. White, of New York, testified that in the year 1862, he sold 1,500 pounds of rubber for Dental purposes. In 1863, 2,800 lbs. For the year ending July 1st, 1865, 3,150 lbs. For the year ending July 1st, 1866, 4,120 lbs. It is estimated that a pound of rubber will make eighteen plates, therefore from the sales of this one Dental depot we find material furnished, in one year, for *seventy-four thousand one hundred and sixty plates!* Are not figures startling when they tell us such truths? Is this terrible "slaughter of the innocents" to go on forever, and in an increased ratio to keep pace with our so-called advance in civilization? Forbid it, Heaven! And oh, my brother sentinels, whose duty it is to guard well the living temple of human happiness, let us determine that henceforth that duty shall be well performed.

The facts that teeth, after development and eruption, retain their size, shape, color, or different shades of color, even those defects due to diseased action, or arrest of development; that during a lifetime the tooth broken in early youth remains without any restoring process from the hand of Nature, usually so prompt to repair a broken bone; these facts, I say, teach us the urgent necessity of coming in *early* to the rescue, of proving the greater benefits of *prevention* over cure, of furnishing the child with proper food; for in this matter of tooth development there is great force in the often quoted line, "The boy is father to the man," The organs of assimilation must have something to assimilate, the organs of nutrition must have nutriment to draw upon. As well order a mechanic to build a house without materials as expect Nature to construct perfect bones and teeth when the elements of such structures are carefully excluded from our food.

Parallel with these notorious facts in regard to our defective teeth, is the fact so noticeable to foreigners, that we are a people of sallow complexions, of great nervous irritability,

of dyspeptic habits. That we turn with disgust from the mountain of roast beef which John Bull loves to climb, or rather *go through*: that we faint at the first odor of saur kraut, in the fumes of which Mynheer Vanderpool scents billows of blissful perfume; that we call the man a savage who takes his steak reeking and red and juicy, as the Indian epicure is sure to do.

Statistics not yet compiled must prove or disprove whatever theories may be advanced as to the causes, near or remote, of such physical peculiarities, or deviations from the normal condition of health, as we have been considering; but probably the limited observation of each one here will agree in this, that not among the people of New England, where corn meal and unbolted wheat flour are common articles of diet, nor among those of the Southern States, where "hog and hominy" compose the most popular dish in family feasts, and corn bread is held in high esteem; but rather in the middle region of buckwheat cakes and whitest of wheat flour, do we find the most defective development of teeth.

That, as a people, Americans mismanage the organs of digestion, and that their teeth suffer in consequence, must be conceded. How much we, professionally, are responsible for this condition of things, each man may consider for himself. But, unquestionably, if we throw the weight of our combined influence in favor of dietetic reform we will accomplish valuable results; and if our brethren of the medical profession join with us heartily in such a movement, the united forces will move on conquering and to conquer.

## Proceedings of Societies.

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THE semi-annual meeting of the Illinois State Dental Society, commenced its session in Chicago, May 14th, 1867, at 10 o'clock in the forenoon.

In the absence of Dr. H. N. Lewis, the President, Dr. O. Wilson, Vice-President, called the meeting to order, Dr. Smith, of Princeton, acting as Secretary.

After the usual preliminary business the following were elected members of the Society: Drs. A. W. French, Springfield; H. J. Smith, Quincy; J. Deschaur, Chicago; A. H. Day, Pekin; J. S. Marsh, Chicago; W. H. Truesdell, Elgin; Robert Gibson, Peoria; Alfred Shipley, St. Charles; W. C. Dyer, Chas. R. E. Koch, and E. D. Swain, Chicago.

The officers elected for the ensuing year were as follows:

*President*—Dr. G. H. Cushing, Chicago.

*Vice-President*—Dr. A. W. French, Springfield.

*Secretary*—Dr. M. S. Dean, Chicago.

*Treasurer*—Dr. J. N. Crouse, Mt. Carroll.

*Librarian*—Dr. W. W. Allport, Chicago.

*Executive Committee*—Drs. A. W. French, and S. Babcock, Springfield; H. N. Lewis, Quincy; L. F. Abbott, Wilmington; and E. H. Kilbourne, Aurora.

After which the meeting adjourned till 2 o'clock, P. M.

### AFTERNOON SESSION.

The newly elected president, Dr. G. H. Cushing, was escorted to the chair, and before assuming the duties of that office, briefly expressed his thanks to the Society for the honor conferred by his election, and hoped his conduct as presiding officer of the society would merit the confidence which the society had expressed by their selection.

After the reading of the minutes of the previous meeting, reports of committees were called for, and received.

Dr Honsinger suggested that the hours from 9 to 11 each morning during the session, be devoted to clinical operations. The suggestion was favorably received, embodied in a resolution and adopted. Drs. Honsinger, Crouse and Brown, were appointed by the Chair as a committee of arrangements for that purpose.

Dr. French moved the adoption of the amendment of the By-laws, (as proposed by Dr. Ellis at the last regular meeting of the Society,) which was, to strike out section 2 of article 7, making the meetings of the society annual, instead of semi-annual, as heretofore. The motion was carried.

Some very interesting specimens of morbid anatomy were presented for the inspection of the society, by Drs. Abbott and Wilson.

The subject of *anæsthesia* was then announced by the Chair as the first subject in order for discussion, and was opened by Dr. Wilson, of Aurora, who read a concise and well written essay upon that subject, of which the following is an imperfect synopsis.

Anæsthesia by congelation possesses one strong point, namely, that in any event, in our profession, a fatal effect is highly improbable. "Dr. Richardson's is far in advance of Dr. Branch's method, but both fail to be universally efficient even in the majority of Dentists' hands, not because of the failure in the article used, but in its application. Chloroform is universally effective, ether nearly so. First effect of both is stimulating; the latter more than the former; this is of short duration. Then comes the effect sedative. The patient approaches death just in the ratio of the quantity absorbed at any one time; and the skill of the operator may be shown in *stopping* at the cessation of voluntary motion.

The more dense the nitrous oxyd gas, the more rapid the effect. The sense of something that is sometimes experienced by the patient, may be relieved by an occasional *natural in-*



halation; ordinarily during the exhibition of gas the pulse will be accelerated one-third, "one hundred and twenty to the minute, full and hard, is generally considered a fatal pulse." "Up to this point it is not unusual to find it during the inhalation of protoxide of nitrogen, but what it makes up in rapidity it has lost in power." "If the pulse were full and increasingly rapid, this condition would burst the tubular bound, and effusion and apoplexy would ensue."

Dr. Kennicott discussed the subject fully, reviewing the different anæsthetic agents now in use, and gave some interesting facts in the early history of ether and chloroform, and his experiments in the manufacture and use of the latter as early as 1847. He prefers pure chloroform to any other anæsthetic now known. Formerly used ether and chloroform combined; but now re-distills and uses the latter exclusively, and considers it in the hands of scientific persons perfectly safe. Likes Richardson's spray producer for some cases; for front teeth and roots it answers a good purpose, and serves an admirable purpose for obtunding sensitive dentine. Thinks nitrous oxyd gas not only dangerous, but its introduction into the profession damaging in its effects.

Dr. Haskell did not use nitrous oxyd gas in practice, but has seen a good deal of it, and considers it the safest and best anæsthetic that has yet been discovered; has heard of no well authenticated case where it has been injurious in its results.

Dr. Gibson is willing to give nitrous oxyd gas a fair trial; thinks the *spray producer* beneficial in extracting dead teeth and old roots, but for teeth not deprived of their vitality, it produces more pain than it would to extract without it. Agrees with Dr. Kennicott, that "chloroform is a perfect God-send."

Dr. Kennicott said, cupidity and nitrous oxyd gas yoked together, were the most damnable things that were ever fastened to the human race; as valuable teeth were now extracted

which might be saved by Dentists of the most ordinary capacity.

Dr. Day, of Pekin, had used the *spray producer*, but it had proved unsatisfactory. Is very much in favor of nitrous oxyd gas, and uses it extensively in his practice.

Dr. Smith, of Princeton, said that his patients informed him that the act of producing local anæsthesia by the *spray producer*, was more painful than the extracting of the tooth without it. Thinks it may serve a useful purpose in attracting the attention of the patient, but as an anæsthetic it amounts to nothing.

Dr. French, of Springfield, said, Branch's instrument for superficial roots worked admirably; but for casual extracting thought it nearly or quite useless; will not answer when the nerve is exposed; now used it occasionally for extracting the front teeth, but not for those posteriorly situated. Has had no trouble from sloughing. Does not use the gas (though he knows nothing against it), but relies principally on manual dexterity.

Dr. Wilson, of Aurora, thinks nitrous oxyd gas the safest and most useful of the anæsthetic agents. Because it is used by unskilled and dishonest men, as it often may be, is no reason why it should be discarded by the profession. If it is ever dangerous, it may be so in the advanced stages of decomposition of the lungs. Has heard unfavorable reports concerning its ultimate effects, but when traced to their source they are suddenly dissipated.

Dr. Kennicott, the chairman of the committee of arrangements reported that the proprietors of public amusements and art galleries, had kindly offered free tickets of admission to the Society during its session.

Adjourned until 11 o'clock to-morrow.

• SECOND DAY—AFTERNOON SESSION.

Owing to the unusual interest manifested in the clinical operations, the meeting adjourned until 2 o'clock, P. M.

Operations were performed by Dr. Smith, of Princeton; Forbes, of St. Louis; French, of Springfield, and Kennicott, of Chicago.

At 2 o'clock the meeting met pursuant to adjournment. Dr. Cushing in the chair.

After the usual preliminary proceedings, Drs. Judd, Eames, Forbes and Park, of St. Louis, Mo., who were present, were elected honorary members of the Society, and invited to take part in the discussions.

The subject of anæsthesia being passed, the president announced "*Filling Teeth*" the next in order.

Dr. Crouse said, this was the most important and the most difficult branch of our profession; considered gold the best material for fillings, and Woods' metal took rank next. In this operation moisture was the most difficult obstacle to overcome. The rubber dam and the wedge were important auxiliaries in this operation, but with these and the napkin it was often impossible to keep the materials perfectly dry until the operation was completed. Thought soft foil in the hands of ordinary operators generally the best; but for those more experienced, annealed foil might do better.

Dr. Forbes, of St. Louis, thought the profession might learn a great deal by inquiring into the causes of their failures. It was more humiliating, perhaps, to speak of these than of our successes; yet, as we all met with them, there was no disgrace in acknowledging it. In looking at the past, he was convinced that a majority of his failures was owing to the soft and friable parts of the teeth not being sufficiently and thoroughly cut away, or because the gold did not overlap the edges of the cavity. The first operation upon a decayed tooth was to probe it, in order to ascertain whether the nerve be exposed; then, to pass the excavator rapidly around the borders of the cavity where the enamel and dentine meet, taking great care that no soft spots or fissures are left to undermine the filling. To be perfectly assured of this the tooth should be thoroughly cleaned, so that the operator

might more certainly detect them should they exist. He now uses the mallet and properly shaped chisels for the purpose of cutting away those portions which are necessary to be removed, as it is easier for the operator and more agreeable to the patient. Will not attempt to fill a cavity which he cannot examine in every part with the eye, as it is highly important that the operator should be able to see his work, in order that it may be done thoroughly.

Dr. Kennicott agrees in the main with Dr. Forbes, but thinks the delicate manipulator can readily determine by the sense of touch whether the decay is thoroughly removed, and that the nature of the case sometimes rendered it impossible to examine every portion of the cavity by any other means.

Dr. French, of Springfield, thinks he was formerly too careful about cutting the tooth away sufficiently, that the operator must have room enough to examine the cavity, and to introduce the gold properly. He used very small napkins placing several of them in the mouth at a time, and when the secretions rendered it necessary removed the lower one and placed a dry one over those remaining. Should the gold become moistened before the operation is complete, he places a dry napkin over the filling and drives it out by the plugger and mallet.

Dr. Honsinger attributes many of his failures, especially in filling the bicuspid, to a desire to preserve *all* of the tooth. Such teeth had become broken down with use, and in this way he formerly lost many. He now cuts away more freely these portions which are weak and friable, and for this purpose uses the chisel more and the file less. Protests against the practice of forcibly wedging, as it sometimes destroys and breaks up the tissues that intervene. Had witnessed several cases of this kind; generally used rubber for separating the teeth, which should be changed every few days.

Dr. Eames, of St. Louis, thinks the important point is to keep the work perfectly dry, detailed his method of using

the rubber dam, by securing it with a waxed linen or silk thread. Also demonstrated the manner of using a very ingenious instrument gotten up by himself, the *Tongue holder and duct compressor*. This instrument was very favorably regarded by the society, and was considered a valuable improvement. Prepared his gold in ribbons, using No. 4, Dunlevy's foil, and in square blocks; in size a little more than the depth of the cavity. These he first secured in the cavity, allowing them to project, or overlap the margins, and lastly uses the annealed ribbons to finish up the work.

The subject of *Filling Teeth* was now dismissed, and that of "*The Treatment of Exposed Nerves*" taken up

Dr. Crouse said the first thing to be done when the nerve was found exposed was to destroy with creosote and arsenic and remove it. Thought the incautious manner of using arsenic, allowing it to come in contact with the soft parts, by not securely cementing it within the cavity, the cause of soreness in the teeth which frequently followed its use. To secure it in the cavity he used cotton and sandarac varnish, and leaves it in twenty-four hours, though it can do no injury when well secured, if left months.

Dr. Gibson said, arsenic should not be allowed to remain in the tooth for a longer time than it takes to accomplish the object desired. Thinks it is injurious to the tooth if allowed to remain too long; that after it has performed its duty in destroying the nerve pulp, it commences on the tooth itself; thought we often doctored too much.

Dr. Ellis said arsenic should be used cautiously, but in small quantities it was not dangerous. Finds nerve pulps which resist its action for a long time, especially if they possess a low vitality or are bleeding. Saw a severe case of poisoning from its careless use, in California, in which the alveolar processes were so much affected, that they became necrosed in consequence, and the patient lost not only the tooth to which it was applied, but the adjoining ones also. He uses as little as possible.



Dr. Kennicott uses a sedative composed of sulphate of morphia and aconitine dissolved in creosote, which he uses in combination with an aqueous solution of arsenic. Places cotton over them and seals tightly with softened wax.

Dr. Judd, of St. Louis, thinks in some instances arsenic will permeate the dentine; much more in some teeth than in others. For example, it will destroy the nerve pulp which is not exposed, when it is placed in the cavity of a tooth. Has seen by the aid of the microscope, channels which extended through both the cementum and dentine. In such cases the arsenic might pass through these tissues, and cause inflammation of the peri-cementum. Thought this a more reasonable supposition than that it is absorbed by the blood vessels of the pulp, and conveyed through the foramen in the apex of the root. Thought Dr. Ellis might be mistaken in regard to arsenic being the cause of disease, in the case which he related, and that it was necrosis resulting from some other cause or causes.

Dr. Cushing thought that the necrosis might have resulted from alveolar abscess, instead of arsenic.

On motion of Dr. French, the rules were suspended in order to elect delegates to the *American Dental Association*.

Drs. Haskell, Kennicott and Smith, of Quincy, were appointed a nominating committee.

Adjourned until 11 o'clock the next day.

#### THIRD DAY—MORNING SESSION.

Society met at 11 A. M. After the usual preliminaries, the President announced *Alveolar Abscess* as the next topic for discussion.

Dr. Ellis thought it unwise to undertake to cure promiscuous cases of alveolar abscess. He would select such patients as would appreciate a successful operation, and who were willing to pay for it, and who in case of failure would not be unreasonable in their condemnation. The people must be taught that ours, like the medical profession, is not an infallible one, and that our work may fail. Treats more

generally with creosote and iodine, and in these, as in other operations is careful to say it *may fail*. The warranting of operations he considers highly unprofessional and never does it. Thinks there is danger of filling too soon after treatment, and often treats after he considers the abscess cured. Fills the nerve cavity invariably with cotton saturated with creosote.

Dr. Freeman thinks the too free use of creosote and odine, where there is not a fistulous opening, apt to create too much inflammation.

Dr. Eames sometimes drills through the process in order to break up the sac, but would not resort to this until other means had been tried.

Dr. Judd, in the first stages of the disease attempts to reduce the inflammation by the aid of leeches or warm applications. After pus is formed it *may* be absorbed, *but never as pus*. After an opening in the process has been made, it may be filled up with cicatrized tissue. When pus makes its exit along the side of the tooth, it is much more difficult to cure, than when it passes through the nerve cavity. To destroy the sac, when formed, force creosote or iodine through the cavity and the inflammatory action will destroy it. There are other complications more difficult to treat. When the cementum of the root is absorbed, leaving the exposed dentine as a source of irritation. In such cases the apex of the root should be excised.

Dr. Nichols was pleased with Dr. Chase's remedy, *mercurius vivus*, and advised its trial.

Dr. Reeber thought Dr. Chase claimed too much for his remedy; but that it was, nevertheless, worthy of a trial. He had used it with some success.

Dr. Kennicott related an interesting case of necrosis of the lower jaw. Removed a large portion of the necrosed bone about one inch in length, and although a great portion of the periosteum was destroyed, new and healthy bone had been formed.

Dr. Honsinger related a severe case of necrosis of the upper jaw. Removed the larger portion of the bone between the eye teeth, yet ulceration continued, and on examination found the former so much diseased, that he had to remove it. He finally discovered that it extended to the antrum, which after extracting the bicuspid he laid bare by removing the necrosed bone. The patient he afterwards learned, was receiving at the same time, constitutional treatment for syphilis.

Society adjourned until 2 o'clock, P. M.

AFTERNOON SESSION.

The subject of *Alveolar Abscess* was passed, and *Dental Neuralgia* taken up.

Dr. Judd remarked that he knew little of the pathology of that disease, as the subject was involved in great mystery. This, of all other diseases, by medical practitioners had been treated the most empirically. The causes were generally local irritation, and a vast majority of cases were more or less, directly or remotely connected with the teeth. Thinks the medical practitioner who treats neuralgia without examining the condition of the mouth, understands his business but poorly.

Dr. Park, of St. Louis, had used nitrous oxyd gas in a few cases which had given instant, and as far as he knows permanent relief.

Dr. Gibson thought local irritation the general cause of that disease, and that the treatment required the removal of that cause. Exostosis of the roots, as well as disorganized nerves was often the cause of neuralgia.

Dr. Kennicott agrees that exostosis is the prevailing cause of neuralgia, though the causes were often remote. Related a case now under treatment, which was caused by uterine irritation. His remedies were *anti-periodics*. Cited an interesting case of long standing which he had cured by severing the supra orbital nerve. The patient had received a blow in that region, over twelve years before, which had

undoubtedly fractured the bones causing them to press upon that nerve.

Dr. Forbes, of St. Louis, in 1837 extracted several sound teeth for a lady, by the *order* of a physician, without affording relief. The patient, to this day, can find relief only in *blue-mass*.

Dr. French often finds the wisdom teeth the offenders, and that the others suffer from sympathy; by removing these the pressure was relieved, and a cure effected.

Dr. Kennicott stated the case of a man whose teeth were much crowded, and who suffered excruciating neuralgic pains. A cure was instantly effected by passing a thin separating file between the first molar and bicuspid.

Dr. Baker also related an interesting case in practice.

On motion of Dr. Crouse, the subject of Dental neuralgia was dismissed and that of *sensitive dentine* introduced.

Dr. Freeman has used cautiously creosote and arsenic as a remedy, allowing it to remain from 5 to 24 hours, without witnessing any bad results.

Dr. Crouse believes a sharp excavator the best remedy for sensitive dentine. Prepared chalk placed around the gums at night often affords relief. Sometimes fills with Hill's stopping allowing it to remain a few weeks.

Dr. Gibson thinks the excavator perhaps the best remedy. Has tried most of the remedies used for that purpose excepting aconite, but has had the best success with arsenic. Thinks when the patient is under the control of the Dentist, that there is little danger to be apprehended from its careful use.

Dr. Cushing rather unwillingly used arsenic in one case. The cavity was superficial and the quantity used, small. About a year afterwards inflammation ensued, and upon opening to the nerve pulp found it much congested.

Dr. Eames had used arsenic with unpleasant results. Should not be used in teeth of children. In excavating he cuts *from* the nerve; uses glycerole of tannin.

Dr. Judd thought, in cases where the absorption was feeble and the teeth dense, there might be little danger in using arsenic.

Dr. Honsinger used it until he formed an unfavorable opinion of it. Thought it too dangerous a remedy to be generally used.

Dr. Clarke, of Beloit, Wis., said, to cut outward with a sharp instrument succeeds about as well as anything else. The best way is to cut *through* the decay at once; when extremely sensitive fills with cotton. This with an alkaline treatment for a few weeks will remove the sensitiveness entirely.

Dr. Haskell, chairman of the committee to nominate delegates to the American Dental Association, reported the following nominees:

Drs. E. H. Kilbourne, Aurora; A. W. French, Springfield; W. W. Allport, Chicago; Robert Gibson, Peoria; J. A. Kennicott, Chicago; J. A. Crouse, Mt. Carroll; J. P. Foltz, Mendota; H. J. Smith, Quincy; A. H. Day, Pekin; A. S. Reeber, Chicago; L. F. Abbott, Wilmington; and W. Albaugh, Chicago, which were duly elected.

Dr. Cushing made the following statement in regard to the proceedings of the Goodyear Vulcanite Company. The recent decision of the Courts in the various cities where applications for injunctions have been made against Dentists, to restrain them from using the vulcanized rubber in their practice, have been made use of by the Goodyear Dental Vulcanite Company, to intimidate the profession into the acknowledgment and settlement of their claims. Many Dentists have the impression that they can be compelled to settle these claims without further steps being taken against them. This impression should be removed. No Dentist is called upon to settle any such claim until he may be sued, and any Dentist so sued will only be called upon by the Courts to give bonds to pay the royalty, provided the claims of the company are sustained by the Supreme Court; and any person who belongs



to, or may become a member of the association for defending suits, will be provided with counsel by the association.

Dr. Kennicott, chairman of committee of arrangements, in behalf of the officers of the Academy of Design, tendered an invitation to the members of the society to a collation at their rooms this evening.

On motion, the President appointed Drs. French, of Springfield; and Smith, of Quincy, as a committee to secure essayists, who should prepare a brief paper to be read in opening each topic for discussion at the next meeting.

FOURTH DAY—MORNING SESSION.

The meeting was called to order by the President, Dr. Cushing, at 9 o'clock in the forenoon.

Dr. R. Gibson, of Peoria, was appointed to deliver the address at the next meeting of the society.

Dr. Haskell read an interesting paper on *continuous gum work*, setting forth its superior advantages over other styles of work, and urging the importance of competent instruction in this branch of mechanical Dentistry at our Dental Colleges.

The subject of *impressions* and casts was taken up and discussed by Drs. Wilson, Kennicott, Haskell, Kilbourne, Smith, Reeber, and others.

Dr. Kennicott offered the following resolution which was carried.

*Resolved*, That this Society unqualifiedly condemns the practice by members of the Dental profession, of taking students to be sent forth to practice upon a confiding community, after only from three months to one year's study and for a pecuniary consideration, and would recommend that students be taken for a term of not less than three years of study, in addition to graduation.

The society adjourned at 12.30 P. M., at which time the interest of the meeting continued unabated. Its next session will be held at Springfield, on the second Tuesday of May next.

## Editorial.

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### PROF. PEEBLES' ADDRESS.

IN the September number of the REGISTER is a long address delivered before the "Chicago Dental Society." This was unseen by one of the editors (till in print), and unread by the other, or it would have been accompanied with a few remarks. Contrary to rule, it was inserted on the credit of its respected author and the society which officiated at its delivery. If it should now be referred to at a greater length than would have been thought necessary at the time of its appearance, its author and friends will not complain. We do not propose to devote a score of pages to its consideration. We have given that much to its insertion.

The address is on "Education," and bears about the same relation to the "Missouri Dental College" that McLean's Almanac does to the "Strengthening Cordial." Much of the address is good; and but little of it is positively objectionable. The same is true of the almanac: its calculations of eclipses are reliable; it tells the rising and setting of the sun; it gives the changes of the moon; its picture of the man with a ram above him, and a lion beside him is good; and some of its "original anecdotes" have not been printed more than fifty times.

The character of the address is consistent with its authorship. Had it appeared as a late production of the sainted Harris, it would have taken the profession by surprise. He had no such positive notions on the subject of professional education. Indeed, he was so befogged by the mists of special science as to promulgate the "Principles and Practice of *Dental Surgery*." Others, too, who like him, have labored for years as educators of our profession, are overwhelmed with doubts, and beset by misgivings as to the true theory of professional instruction. But a new professor, just elected, has none of these doubts. If called

on by any society before he has been spoiled by delivering a course of lectures, he can tell just how the thing is to be done. At that stage of his professorial career he knows all that is worth knowing about the education of the profession. And this position is not to be disputed, not even doubted; for we speak from experience. Why, a dozen or more years ago we could have told the old "American Society" all it wanted to know, and would have done so, if it had asked us! Now we are despondent with dread that our next course of lectures will prove a total failure.

This address sets out with the proposition that "A specialty can not be separated from the parent stock, and be maintained as an independent profession," which is simply "begging the question," or assuming as true the matter in dispute. Every one will admit that a specialty in medicine can not be maintained independently of *medical science*; but that it can not be maintained independently of the *medical* profession, as such, is another matter. A specialty in agriculture can not ignore soil and climate; but sugar-making and cotton-raising may be carried on independently of each other. The soil and the climate belong to the one as well as to the other. And the boy destined to become a cotton planter is not the best educated by confining him, through early life, to raising cane, tobacco, corn, hemp, wheat, etc., only allowing him occasionally to see a cotton seed or a cotton plant, so that when he takes possession of his own estate he may know what to plant. True, this would be better than no education, for he would thus learn to plow, and would develop his muscles, but he would accomplish these ends quite as well in raising cotton, and would, at the same time, gain a knowledge of the characteristics of the plant which is to be the basis of his fortune.

This figure is not overdrawn, and applies well to the case in hand. The author of the address is a professor in the "Missouri Dental College," at St. Louis, which he modestly tells us is "not least" among the colleges.

("If self the wavering balance shake  
It's rarely right adjusted")

Now, for lack of material, want of harmony, diversity of sentiment as to the necessity of another college, or some other

reason, the Dental profession was not in condition to carry on a college in that locality, without aid from the medical profession. It was their duty to obtain this aid. And if their medical co-operators would prepare their lectures with direct reference to the wants of Dental Surgery (for there is such a thing), all would be well. But the physicians in the Missouri Dental (?) College lecture to train *physicians*, not Dentists. The blacksmith shop is not the best place to learn the carpenter trade, even though there may be a good deal of hammering done in it.

The mother of eleven little porklings had but ten mammary appendages for their accommodation. On the principle that might gives right, a teat apiece was taken by the stoutest, leaving a slim little fellow unprovided for. He seized the tail for want of something better, and sucked and starved, and starved and sucked; but in his faint dying squeals he didn't advise any of his comrades to play the part of *the eleventh pig*. Yet this is the part played by the Dental student when listening to lectures adapted to the training of general practitioners. And when they have taken the regular course in a medical college they know as little of Dentistry as the young planter above referred to does of cotton-raising. He knows the cotton plant when he sees it; they are not likely to know a lower from an upper molar, after extraction. In our own medical course, all that was taught us, in the lecture room, in reference to the teeth, might have been taught in two hours, if not in one. Such was all that anatomy, physiology, pathology, chemistry, therapeutics and surgery could afford us on these organs, while so many others demanded attention.

We have already stated that much of the address is good. The Dental profession will not believe that we favor a narrower range of information than that advocated by it. And had it avoided the slanders implied or expressed in its special pleadings, we would have been saved the trouble of writing this.

The author asks, "Can any specialty in medicine be fully acquired, or thoroughly taught in a school, when the general principles of medical science are not taught in the fullest sense of the term?"

To this we would reply, the experiment has never been tried,

only that would bring us in direct issue with the author; for he goes on to say, "The science of medicine, in its general range, is not taught in our schools of specialty, as they are generally constituted. Nor will it be; so long as the absurdity of making a *mere* specialist is kept up, and our schools ignore the fact that a thorough knowledge of general anatomy, physiology, pathology and therapeutics is essential to the education of our specialists."

"Our schools of specialty" are the Dental colleges. The statement is that the science of medicine in its general range is not taught in these; and that they ignore the fact that general anatomy, physiology, etc., are essential parts of Dental education.

These are taught in the Missouri College it is claimed; and herein is the *essence* and *spirit* of the address. This is the calling "special attention to strengthening cordial;" and we have no objections to the cordial, but when it is charged that the "genuine old Dr. Jacob" doesn't keep good sarsaparilla, we must be allowed to respond.

If the author of the address would take another course with his *alma mater*, or one of her *sisters*, he would retract this charge, and modify a number of his statements.

Schools of general medicine had a fair trial before Dental schools were organized. So far as teaching Dental surgery is concerned they *utterly failed*. They would fail again, and for the same reasons. Dental science was the *eleventh pig*. Its votaries had no chance. Occasionally an energetic student forced a little special instruction from the general mass, just as the extra pig; when stout enough, occasionally drops the tail and snatches a teat, when its rivals are not watching. Such a student was Dr. Harris, who finding, that for sucking purposes, teats are vastly better than tails, determined that his younger brethren should be furnished with "sincere milk" of Dental science, and so inaugurated the era of DENTAL COLLEGES. These have done more, in a score of years, to advance Dental science and practice, than the medical schools have done since the days of Hippocrates. That they have done well is admitted even by the author of the address. He says, "We are far advanced in the art, but can the art precede the science?" He also quotes some one to prove



that art can not go ahead of science. He says too, that we have made as rapid progress in knowledge and science as the medical profession. He claims for our specialty an "unprecedented advancement;" and he mentions our Dental colleges as prominent agencies in producing this advancement; but now he proposes to go back to the old way, relying mainly on physicians to teach Dentistry.

A fox lost his tail in a trap, and advised his comrades to cut their tails off; but they didn't do it. A little friend of ours had weak ankles. They were kept straight by steel stays. He became almost too proud to play with children who didn't need bracing. We are glad the Missouri College has started. We hope its friends will make it a *Dental* college as soon as practicable—that they will take off its braces as soon as it can walk alone.

W.



### OHIO COLLEGE OF DENTAL SURGERY.

THE regular annual session of this Institution will commence on the 15th inst., and continue five months, one month longer than heretofore; this extension having been made by the association of the Colleges of Dentistry.

The curriculum of this Institution has undergone a very material change since its last session; this occurs in part by the action of the above named association, and in part by the action of the Ohio Dental College Association, together with that of the Board of Trustees and the Faculty.

In making these changes, the only object was to secure a more thorough course of instruction, to more thoroughly prepare the student for usefulness and efficiency in the practice of his chosen profession.

By a division of the course into two classes, less labor is given to the student than heretofore, which was acknowledged to be overtaxing and unreasonable. Now, with fewer branches, and longer time, far more thorough acquaintance with these branches will be a necessary result; and besides, the same ground will not be traveled over twice.

There are now eight teachers, instead of five or six as formerly.

All the fundamental branches of medicine are thoroughly taught. Anatomy, Physiology, Histology, Pathology, Therapeutics, Inorganic and Organic Chemistry, will each be presented in from sixty to seventy lectures. These branches are taught not only as to the general physician, but in addition to this, their application to the practice of the Dental specialty.

Every Dentist thoroughly skilled in the science of his profession will recognize the fact at once, that there are many men thoroughly familiar with all these branches, and yet quite unfit for Dental practitioners. The truth of this statement is most fully evidenced by the mistakes made, and the errors maintained in regard to the teeth, their diseases and treatment, by some of our profoundest medical men. And hence the necessity for a special teaching, for the application of a knowledge of these things to the practice of this specialty.



### A REPLANTED TOOTH.

THE following case was reported by Dr. H. at the late meeting of the American Dental Association. It is peculiarly interesting, and the more so, as it is reported from careful record and observation.

W.

EDITORS OF DENTAL REGISTER:—At the request of Dr. Watt, I put upon paper a short report of a case verbally reported by me at last meeting of the "American Dental Association."

Aug. 13th, 1857, Mrs. R——, aged eighteen years, came to my office to have the first right upper molar tooth removed. By taking hold of my hand and moving her head, she shifted the instrument so that instead of the molar I extracted the second bicuspid, a perfectly sound tooth. Then I extracted the aching tooth; but the patient being so much annoyed by the loss of a perfect tooth, I concluded to replace it, which I did, after it had been out of the mouth about ten minutes. I first removed the ragged portions of the periosteum from the root; then thoroughly cleansing the socket with pledgets of cotton and tepid water, I returned the tooth, closed the mouth and bandaged it to hold the tooth in place. I treated it in the usual way till the tooth was sufficiently

firm in place to remove the bandage, which was in about three weeks. I saw the case occasionally for two weeks longer, when I dismissed the patient. I saw her every few months since, but heard no complaint, until about six months ago she came to me with the *same tooth* aching from *exposed nerve*.

Zanesville, O.

W. M. HERRIOTT.



### BIBLIOGRAPHICAL.

*A Dictionary of Medical Terminology, Dental Surgery, and The Collateral Sciences.* By CHAPIN A. HARRIS, M. D., D. D. S. Third Edition, carefully revised and enlarged, by FERDINAND J. S. GORGAS, M. D., D. D. S.

WE have just received a copy of this excellent work, and given it a cursory examination, and cannot do less than express our high appreciation of the manner in which the editor has performed his work.

The work is thoroughly revised, and "between two and three thousand new words have been added to the present edition, and additions and corrections made to the definitions of many others."

This work will be a valuable addition to the library of the Dentist, and indeed it cannot be complete without it. It will be a book of daily reference for both the student and practitioner. It will to a large extent supply the place of the medical dictionary, while at the same time, it presents all the words or terms of the Dental specialty. It will, we doubt not, very soon find its way into the library of every Dentist in the country, as well as be in the hands of every student.



### NOTICE.

The Transactions of the last meeting of the American Dental Association, held in Cincinnati, from July 30th, to August 3d, inclusive, are now ready for distribution, and will be sent immediately to the members entitled to them; they are also for sale to all others who may desire to purchase them, at \$3.00 per volume.

## TENNESSEE DENTAL ASSOCIATION.

THIS Society was organized at Nashville on the 26th day of July, 1867, with a very good representation of the profession of the State of Tennessee present. A Constitution, By-laws, and Order of Business were framed and adopted; the whole of which we regard as very good. The regular meetings are to be held semi-annually in December and July; at such places as may be designated by the Association. Dr. W. H. Morgan, of Nashville, is President, and with him is associated a splendid corps of officers.

Thus the organization of Associations goes on, and from it an incalculable amount of good will result. Every State should, and we believe soon will, have its Dental Association, in which all the legitimate part of the profession ought to be embraced. In that way, and that only, can the profession in the different sections become harmonious in feelings, principles, and practice.



## PERSONAL—AND UNSELFISH.

A YEAR ago, under a caption not much different from the above, we explained to the readers of the REGISTER that we were about to try the experiment of a medico-dental office. We then believed that every large city stood in need of such. We believe so still. The many ills resulting from, and those aggravated by dentition and its derangements, are too often misunderstood by the Dentist, and too often overlooked by the physician. In making this statement we say nothing against either profession. Our views on professional specialties are well known to the readers of this. Although very much of the severest suffering known to the human family results from Dental disease, yet the subject is often neglected by the general practitioner, on account of his time being taken up by morbid conditions more immediately fatal. Hence, we argued the propriety of Dental *Physicians*, as well as Dental *Surgeons*. But our experiment is a failure, in that it is not appreciated to a remunerative extent either by the profession or the public. Fortunately an improved state of health places the partial resumption of practical Dentistry within

our power. We hope others will succeed where we have failed ; and in resuming "chair-work," we are still willing to be useful to our professional brethren, either in the way of counsel, or in the use of anæsthetics. W.

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### OBITUARY.

A SPECIAL meeting of the Pittsburg Dental Association was held at the office of Dr. J. S. King, Oct. 3d, 1867, to take some suitable action in regard to the death of Dr. HENRY BAKER ; when a committee of seven was appointed to draft appropriate resolutions. The following resolutions were presented :

*Resolved.* That this Society show its affection for the virtues of our departed friend and brother, by placing on record these expressions of our bereavement and sorrow for his departed worth.

*Resolved.* That our sympathies are hereby tendered to the relatives and friends of the deceased in this sad and inscrutable dispensation of Providence.

*Resolved.* That a copy of these resolution be conveyed to the family of the deceased.

*Resolved.* That these proceedings be published in the Dental Journals.

All of which is respectfully submitted,

J. S. KING,	} Committee.
C. L. WUESTENBERG,	
JAS. ORR,	
G. W. SPENCER,	
J. GREENAWALT,	
M. S. KING,	
M. E. GILLESPIE.	}



# THE DENTAL REGISTER.

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[No. 11.]

## Original Communications.

### DENTAL SOCIETY OF WESTERN NEW-YORK.

RETIRING ADDRESS OF THE PRESIDENT, R. G. SNOW.

Read before the Dental Society of Western New York, October 1, 1867.

GENTLEMEN :—The time having now expired that, by your partiality, I was called to preside over your deliberations, custom has made it incumbent on me to read you a short address. And, in endeavoring to discharge this duty, I cannot hope to advance anything new, and I fear nothing that will even interest you. The choice of a subject is a matter of no little embarrassment, and after some reflection I have thought that a slight and rapid review of our profession and some of its improvements would be as acceptable as anything I can offer you.

There can be little doubt that the inventive genius of any people, and even the desire to adopt improvements when made, is greatly influenced by the Government under which they live, and the amount of liberty which they enjoy.

As an example, compare our own and the European nations, and I think you will agree with me, that where the greatest liberty is enjoyed by the people, there will be found the greatest advancement in the arts and sciences, and the

greatest perfection in everything which adds to the enjoyment and happiness of man.

This is rendered still more apparent by comparison with any of the Asiatic nations, most, if not all, of whom live under a despotic form of Government, the people being perfectly satisfied to live and do just as their forefathers did two and three thousand years ago. I lately conversed with a missionary who had spent some fifteen years in Persia, and his account of his experience there would seem to indicate that the task of inducing the people to change their habits and improve their condition was quite hopeless. They (the Missionaries) had taken out plows, and various agricultural implements, in hopes of inducing them to improve their mode of agriculture, but the inhabitants would not adopt them. Their fathers got along very well without anything of the kind, and they were entirely satisfied to do the same. The spirit of improvement is entirely wanting among them. Their Dentistry consists entirely in extracting the teeth when they are diseased and painful.

Liberty and improvement seem to go hand in hand; and this idea must have been uppermost in the mind of our illustrious countryman, Daniel Webster, when he exclaimed in one of his speeches, "I thank God I was born in this land, and in this age; for this is the land of liberty, and this is the age of improvement." Perhaps, gentlemen, we can all endorse this sentiment.

Some wise man has said that there is always a best way of doing anything. I do not think this proposition will be disputed by any one, and we Americans, as a people, seem to have fully adopted the idea, and are constantly engaged in every branch of the mechanic arts, in contriving and inventing instruments and machinery for doing things quicker, cheaper, better, and in many things the degree of perfection arrived at is truly surprising. From the making of a pin or a carpet tack to the most massive steam engine, everything is turned out in great perfection, and with astonishing ra-

pidity. And thus we now have improved methods of building and warming our houses—improved methods of traveling—improved methods of sending intelligence from one point to another—improvements in agriculture—in printing—in short, in every department of knowledge; and last, though perhaps not least, improvements in Dentistry. The inventive genius of our people was probably never more active than now. The records of the patent office in Washington show that from two to three hundred patents are issued every week—two hundred and sixty being about the average.

But, not to pursue this train of thought any further at present, let us turn our attention more directly to our own profession. And now I may say, that the improvements in any branch of knowledge can only be fully understood and appreciated by comparing the dim, distant past with the present.

Among the ancients the science and art of Dentistry was undoubtedly in a very rude and uncultivated state, though the Greeks and Romans, and Egyptians are said to have carried it to some degree of perfection.

The first account which we have of any attention being paid by mankind to their teeth is from the Greek historian Herodotus, who lived about three hundred years before the Christian era. He states that the Egyptians at a very remote period confided their teeth to the care of a particular set of persons, but he does not state in what this care consisted.

Little, however, is known of the attainments of these early practitioners. In the ancient tombs of this people, it is stated that artificial teeth of ivory or wood have been found, some of which were fastened on gold plates. It is also stated that the teeth of mummies have been found filled with gold. Thus it would seem that the ancient Egyptians understood processes of the art, which are commonly regarded only as the inventions of the refined nations of modern times.

Hippocrates, also a Greek, who lived about the same time,

said to be the first correct observer, and the first good physician the world ever saw, gives a very amusing if not ludicrous account of the origin and development of the teeth. He says, "there is a glutinous increment from the bones of the head and jaws, of which the fatty part is dried by heat, and burned up—and the teeth are made harder than the other bones, because there is nothing cold in them." He also describes some of the diseases of the teeth, and recommends their being removed when they are rotten and loose. He, however, describes no instruments for this purpose.

He gives the following receipt for a dentifrice: "take the head of a hare and three mice, burn and reduce them to powder, then mix them with an equal weight of powdered marble." Here we have animal charcoal and prepared chalk, though in rather a crude state.

Martial, a Greek poet, addressing himself to his friend Selius, says, "you are not ashamed to buy teeth and hair, but what will you do for an eye, as there are none to sell?"

This would seem to indicate that among the Greeks, at least, their Dentists were sufficiently skilled to insert artificial teeth. It would appear, however, that they were made of bone and ivory, as it is stated that the toothless mouth of Egel was repaired with bone and ivory.

Celsus, a Roman physician, gives the first regular directions for extracting the teeth. His method was to imitate the natural loosening of the teeth by shaking them well in the jaw, and subsequently extracting them. The severity of the operation, as practiced by him and others in his time, may be imagined, when it is stated that he preferred the application of the hot iron or boiling oil to the tooth to make it exfoliate.

With the decline and fall of the Greek and Roman Empires, Dentistry fell into disuse, or was practiced by empirics and pretenders, and as late as 1728 when Fauchard published his work on the structure and diseases of the teeth, in speaking of the state of Dental surgery in his time, re-

marks, "that in France, the most celebrated surgeons having abandoned this branch of surgery, or having but little cultivated it, their negligence gave rise to a class of persons who, without theoretic knowledge or experience, and without being qualified, practiced it at hazard, having neither principles nor system. About this time, however, it was provided by law, in France, that those intending to practice Dental surgery should submit to an examination by men learned in all the branches of medical science who should decide upon their merit.

Ambrose Paré, a French anatomist and surgeon, in 1579, gives a very good account of the teeth, and says that their adherence to the jaw is caused by a ligament which goes from the root of the tooth to the jaw. He also thought that the teeth continue to grow during the life time of the individual, and that they can distinguish tastes. He cured tooth-ache by the hot wire, and also by filling the tooth with cotton wet with sulphuric or nitric acid.

This ligament mentioned by Ambrose Paré, must be the same that Dr. Caldwell, a Dentist of Philadelphia, made so much noise about some twenty years ago. He (Caldwell) was in the habit of cutting it with a lancet, thereby, as he pretended, rendering extraction very easy and almost painless. I have heard nothing of this ligament since Dr. Caldwell's time.

The following case is related by Ambrose Paré which shows that the operation of transplanting the teeth was in vogue in the 16th century :

"A princess was obliged to have a diseased tooth extracted, and on applying to a surgeon she brought with her one of her waiting maids, who stood by the side of her mistress, and when the tooth of the princess had been extracted, a sound one was taken from the jaw of the girl, and placed into the socket of the jaw of the former, which took root and became sound, healthy and useful."

Senwenhoeck, a Hollander, in his investigations with the



microscope, in 1678, discovered the tubular structure of the teeth, and published the same in the English philosophical transactions of the same year. He says, that he and another gentleman plainly saw that the whole tooth was made up of very small, straight and transparent pipes—six or seven hundred of the pipes put together he judged not to exceed the thickness of one hair of a man's beard. His statements, however, were so new and extraordinary, that but little attention was paid to them at the time—though his account of the structure of the teeth is now recognized as in the main correct. He was a hundred years or more in advance of his age, and was therefore not fully appreciated during his lifetime.

In England, also, Dentistry remained in a very uncultivated state; and down to the time of John Hunter, little or nothing had been done to raise it to the dignity of a science. His work on the natural history of the teeth he published in 1771, and that on the diseases of the teeth, and their treatment, in 1778. And although his views were greatly in advance of any previous English writer on the subject, still they were different in many respects from those held at the present day. He instituted a series of experiments to test the question whether the teeth were vascular or were endowed with vessels and a circulation like the other parts of the body, and his observations and experiments led him to the belief that they were not—that they had no vessels and no circulation.

These are his words after relating his experiments: "It would appear then that the teeth are to be considered as extraneous bodies with respect to a circulation through their substance—but they have most certainly a living principle by which means they make part of the body, and are capable of uniting with any part of a living body."

Perhaps I may be allowed to relate to you one; and probably the most convincing to his mind of any of his experiments.

It is known that by feeding a young animal with food mixed with madder, the bones become tinged a red color. Mr. Hunter failing in his efforts to inject the teeth as he was able to the other bones, made this experiment.

He shut up several pigs and fed them three or four weeks on food mixed with madder. He then killed one of them and found the bones tinged red. But the parts of the teeth formed before the feeding were white as before, while the layer of tooth formed during the feeding was tinged red. He then fed them with food without the madder for about the same length of time. He then found the bones assuming their natural white color; but the red layer remained in the teeth the same as before, with the addition of a white layer outside the red. And he argues from this, that by feeding a young animal with and without madder for a month at a time, alternately, when the teeth are forming, you will have alternate layers of red and white through the whole tooth; and the fact that this coloring matter, after being deposited in the teeth, remained there permanently, was satisfactory proof to his mind that the teeth contained no absorbent vessels. How long after feeding these animals with madder he made an examination of their teeth he does not say. It would have been much more satisfactory if he had, for although the coloring matter might not have been removed in a month or two, it might have been in a year or two.

But these views of Mr. Hunter are now considered by all well informed Dentists to be erroneous. Mr. Thomas Bell, of London, in his work on the teeth, speaking of the difficulty of injecting them, says, "what art has failed to do, nature or rather disease has done for us—and then goes on to say that he has in his possession a set of teeth from the mouth of a young woman, who died of jaundice, every tooth of which is tinged a bright yellow color. Authors, also, tell us that the teeth of persons who die of strangulation, as hanging or drowning, are very commonly more or less injected with red

blood; also, in some inflammatory diseases. And, more than all, every Dentist has had more or less trouble with sensitive dentine, and sensitive dentine would seem to indicate both vessels and nerves.

Mr. Hunter's views in regard to the diseases of the teeth were in the main correct, but his directions in regard to Dental practice, show plainly enough that he was not a practical Dentist; and can hardly fail to excite a smile when recapitulated at the present day. For instance, when a molar tooth is decayed in such a place that it cannot be filled—or when it is decayed to the nerve, and still enough of the tooth left to be useful, he recommends that it be extracted and boiled in water a few minutes to make it clean and destroy its life, and then returned to its socket in the jaw. This, he says, will prevent any further decay as the tooth is now dead, and not to be acted on by any disease, but can only suffer chemically and mechanically. He adds, that this practice has been sometimes followed with success

He mentions two metals only for filling decayed teeth, gold and lead; and says, when a large cavity is filled in the crown of a molar, for instance, it is well to bore a small hole through the wall of the tooth, and put in a pin to prevent the filling from coming out.

Now, all this sounds very strangely at this day, but it was certainly recommended by good authority, and was undoubtedly thought by many to be good practice, less than a hundred years ago.

Mr. Hunter also taught and practiced the operation of transplanting the teeth from the mouth of one patient to that of another, but as diseases were sometimes communicated in this way, it soon fell into disuse.

But, gentlemen, let us come down to our own times and our own country—and now, truth compels me to say that up to within the last forty or fifty years our profession was in a very neglected and uncultivated state. With some few honorable exceptions in our larger cities the practice was in the hands

of adventurers and charlatans. It was practiced by barbers, at least so far as extraction is concerned. I think it may admit of some doubt whether our profession fifty years ago was in a greater state of advancement in this country, than it was two and three thousand years ago among the Greeks and Romans and Egyptians. And considering how it was treated, it can hardly seem strange that it was so. Our medical colleges were silent on the subject of the diseases of the teeth. None of our eminent Surgeons cultivated this branch of surgery, and Dentistry seemed to be left to take care of itself; or to fall into the hands of any one who had the enterprise and ingenuity to contrive up a kit of tools and proclaim himself a Dentist. I do not think that I am far from the truth when I say that it became a kind of refuge for persons who were broken down in other kinds of business. Hence, the majority of itinerant Dentists that used to perambulate the country.

Under these circumstances Dentistry and Dentists must and did, sink in the public estimation to the very lowest ebb. Dr. Horace H. Hayden, of Baltimore, one of the most celebrated Dentists of his time, in his remarks before the first Dental convention ever held in this country, said among other things, that when he entered on the duties of the profession, forty-three years before that time, the very name of Dentist was a reproach and a bye word, and this condition of things continued for many years after that time.

But I am happy in saying that a great change for the better has come over the members of our profession. That spirit of narrow-mindedness and illiberality formerly existing, has, in a great measure disappeared, and the avenues to knowledge are now open and free to all; and the interchange of ideas and sentiments among Dentists almost universal. Dentistry has been liberalized and raised in the public estimation, and its sphere of usefulness greatly extended. I attribute these changes to three causes. The publication of Dental journals; the establishment of Dental colleges, and the formation of Dental associations.



The first number of the *American Journal of Dental Science* was issued in the fall of 1839, under the auspices of a committee of liberal minded gentlemen. Its first editors were Eleazer Parmley, of New York, and Chapin A. Harris, of Baltimore. The object of its publication as set forth in the prospectus, was to make it a vehicle of useful information to the numerous Dentists in the United States. This, so far as I know, was the first Journal ever published, devoted exclusively to Dental science.

In 1840, the first Dental college in the United States, and probably the first in the world, was established in Baltimore, and to Chapin A. Harris, in a great measure, is due the honor of inaugurating this important movement. The first course of lectures was given in the fall and winter of 1840 and 1841.

The first professors were Horace H. Hayden, H. Willis Baxly, Chapin A. Harris, Thomas E. Bond, Jr.

Only four, as you perceive. Now the same college has eight professors and a demonstrator. At the close of the first course of lectures two students graduated and received the title of D. D. S. The next year three graduated.

On the 18th day of August, 1840, the first Dental convention commenced its session in New York. A constitution was adopted and officers chosen. Fifteen Dentists signed the constitution and by-laws at this, the first session of the convention. This was twenty-seven years ago. Now, we have in the United States no less than six Dental colleges; we have four ably conducted Dental journals, and Dental societies almost everywhere.

But I wish to direct your attention, for a moment, to some of the improvements which have been introduced into our profession within the last twenty or thirty years. It is curious to observe how gradually, step by step these improved methods of practice have advanced to their present state of perfection.

And first, of the operation of filling. The directions given



by the older authors, for performing this operation are not in general sufficiently specific. Dr. Fitch directs, after the cavity is properly prepared and cleansed, and dried, with a blunt pointed instrument, to pass in the gold leaf until the cavity is full, and press it down very hard. He gives no directions as to the manner of preparing the foil, or the manner of introducing it into the cavity, leaving that entirely to the skill of the operator, and every operator to adopt his own method.

Dr. Harris is more specific and directs the gold to be cut into strips and rolled or twisted into a rope—then, after the cavity is prepared, with due precaution as to keeping it dry, set the end of the rope to the bottom of the cavity and with an instrument fold it down, and carry the fold to bottom of the cavity so that the end shall present to the surface, and so on till the cavity is filled. This method was almost universally in use, when I came into the profession twenty-eight years ago. Harris advocates wedge shaped instruments, and directs them to be left rough on their sides and points so as to hold the gold.

But the idea of having the points serrated does not seem at that early day, to have fully dawned upon the profession.

Then the idea of folding the foil into a ribbon or tape and introducing in the same manner, was adopted by many Dentists. This was held to be an improvement, as the different layers of foil would lie flat upon each other and against the walls of the cavity, and therefore make a more compact filling than when used as a rope.

Then the plan of rolling up the tape into a hard coil, or cylinder part of the way—set this coil into the cavity and fold in the balance of the tape in the usual way.

Then the method of rolling up a series of cylinders and setting them into the cavity, like cigars in a tumbler, forcing them against the walls of the cavity, and introducing smaller ones till it is completely filled. This method, I believe was

introduced to the profession by Dr. Clark, of New Orleans.

But what has produced the greatest revolution and improvement in our manner of filling, has been the introduction of adhesive gold, serrated instruments, and the mallet. With these the skillful operator is able not only to fill a cavity and restore the tooth to health and usefulness, but to build out and restore the shape of a broken tooth, or if necessary build on an artificial crown. This, I think, may be looked upon as the perfection of this difficult and most useful operation.

The treatment of teeth when decayed so as to expose the nerve, has, within the last few years undergone great and important improvements. Previous to 1835 or '6, when Dr. Spooner promulgated to the profession the fact that arsenic would destroy the vitality of the nerve, there was no settled treatment for teeth in this condition. Every Dentist, and I may say every writer on Dentistry, had his own particular method; and the result was in a great majority of cases, that the treatment ended in extraction. Indeed, most authors up to that time, and even later recommended the molar teeth to be extracted when decayed to the nerve, looking upon all curative treatment as useless and hopeless.

Dr. Kœcker recommended the exposed point of the nerve to be seared with a red hot blunt pointed instrument, taking great care not to destroy the entire pulp, then lay over it a small piece of sheet lead and fill the tooth. He claims to have practiced this method successfully.

Dr. Fitch has several methods: destroying the nerve with some of the mineral acids; or lunar caustic; or in the single teeth with the red hot wire—applying powdered nutgalls to the exposed nerve for a month or more and eventually capping with lead or gold and filling. But he closes by saying that many teeth will resist all treatment and must be extracted.

Mr. Fox speaks of luxating the tooth in its socket so as to break the nerve and bloodvessels at the point of the fang, and let the tooth remain. This was soon abandoned as be-

ing no better than Mr. Hunter's method already mentioned.

A Mr. Fay, of London, published a paper as long ago as 1830, in which he advocated the plan of cutting off the tooth close down to the gum—and this method was, for a time, quite popular in Europe—I am not aware that it was ever practiced in this country. But it was soon found that the fangs were nearly as painful as before the excision, and it soon fell into disuse. Other plans have been proposed, but I will not trouble you with them.

I have said that previous to the advent of arsenic there was no settled method of treating exposed nerves. There was not for many years after, and I can hardly say that there is now. Every Dentist knew that arsenic would destroy the life of the nerve, but no one yet knew how to treat a tooth after the nerve was dead to restore it to health and usefulness. Harris, as late as 1845, speaks very disparagingly of its use, and says the teeth are rendered almost useless, and if filled after the nerve is destroyed in this manner alveolar abscess is almost sure to follow. To prevent the formation of the abscess, some one proposed to insert a piece of hollow gold wire or tube either through the filling, or through the wall of the tooth to communicate with the nerve cavity and allow the escape of offensive secretions. This was soon simplified by drilling a small hole through the wall of the tooth under the gum. But it was found that this allowed the decay to go on in the centre of the tooth so that it was soon destroyed. And now came the last and certainly a very important step in this improved manner of treating nerve cases—an idea which it took the profession twenty years or more to arrive at, after the advent of arsenic—the idea of cleaning out the nerve cavity and after proper treatment filling the fang to the apex with metal. This when properly done is almost uniformly successful.

One thing more, and I will pass from the nerves. In 189, Dr. E. Baker, of New York, in an article in the *Journal of Dental science*, recommended the nerves in the front teeth

and even the bicuspid when exposed to be removed by a small instrument or broach passed up to the end of the fang so as to bring it out at once. Then the whole internal cavity wiped dry and immediately filled with gold to its highest point. He says there is seldom any inflammation following the operation, or any unpleasant symptom whatever. He also says that Dr. Hudson, of Philadelphia, followed this practice more than thirty years before the time in which he (Baker) wrote and claims that teeth filled by Hudson thirty years before, were still good and serviceable. I do not think that this practice ever came into general use in the profession; but I am happy to say that it is being revived by some of our members.

The improvements in this branch of practice may be looked upon as important as any which have been introduced into our profession for many years past; as the skillful operator is now enabled to preserve and make useful for an indefinite length of time, many teeth which formerly were doomed to extraction.

The improvement in artificial teeth within the last forty years has been most remarkable. Forty years ago artificial substitutes for the natural teeth were made almost entirely of perishable materials, such as bone, ivory, cattle's teeth or human teeth. Now the porcelain teeth offered in market are strong, imperishable, and very perfect imitations of the natural organs. The manufacture of porcelain teeth seems to have been a French invention; but to our American Dentists is due the credit of bringing them to their present state of perfection.

The first experiments in the manufacture of these teeth in the United States, was made as early as the year 1807 by Mr. Charles W. Peale, of Philadelphia. He had the misfortune to lose a number of his teeth and had some made of ivory. Seeing an account in the papers of mineral teeth, he procured a receipt and materials and commenced experimenting, and soon produced so good an article that he constructed

a set on gold plate for his own use, and also made several sets for his friends. He also gave instructions to Dr. Barabine a Dentist then practicing in Philadelphia.

This Mr. Peale seems to have been a kind of universal genius. In his boyhood he was apprenticed to a saddler, and in after life successively carried on the business of saddle and harness making, silversmith, watchmaker, carver, became an eminent portrait painter—a sportsman—a naturalist—a taxidermist—founded the Philadelphia museum—made himself a violin and a guitar—and invented and constructed several machines. It can hardly be looked upon as singular that a man who could do all this, should be able to make porcelain teeth.

It is stated that the first regular manufacturers were Greenwood, Hoffendale & Parkhurst, who were engaged in the business about the year 1825. French artificial teeth were manufactured in Philadelphia from 1827 to 1830, by Planteau and McHenry. Up to this time it does not seem that any effort had been made to bring these teeth before the profession so as to introduce them into general use. The probability is that all the teeth made up to this time were of so inferior a quality as to be unsaleable. About the year 1835, Samuel W. Stockton, of Philadelphia, produced a very excellent and natural looking tooth and manufactured them in large quantities—threw them into market, and they were very soon universally adopted by the profession. Since that time various persons have engaged in the business, and by gradual improvements have brought them to their present state of perfection.

The manner of fastening artificial teeth in the mouth has also greatly improved within the last few years. It is stated that as long ago as three or four hundred years before the Christian era, partial sets of teeth were held in the mouth by being fastened to the remaining teeth by ligatures of silk or flax or wire of silver or gold; and this method was still in use fifty years ago, and continued in use by many Dentists



nearly if not quite down to the advent of porcelain teeth. Then the clasp came into use and was certainly a great improvement over ligatures or wires, as it enabled the wearer to take out and replace his teeth at pleasure and without difficulty. Mr. James Gardette seems to have been one of the first to use clasps. He settled in Philadelphia in 1784, and continued in uninterrupted practice until 1830, a period of forty-six years. He was the first also to put in whole sets of teeth on the principle of atmospheric pressure. One would suppose that this method would suggest itself to the mind of any person who had any knowledge of natural philosophy. But its discovery by Mr. Gardette, was quite accidental. You are all aware that the old method was to support them by spiral springs, and it was supposed that they could not be worn without the springs. About the year 1800 he made a set of upper teeth for a lady of the hippopotamus ivory, and attached the springs in the usual way. They soon decayed and became discolored and a second set became necessary. At the appointed time the lady came for her teeth—they were finished but the springs were not attached. He told her to take them home and keep them in her mouth as much of the time as she could, so as to become used to them, and he would call in a few days and attach the springs. Happening to be very busy he neglected to call for some three months; when with springs and pliers and many apologies for not calling sooner, he confronted his patient and asked for the teeth for the purpose of putting on the springs, and was greatly astonished when told that with the exception of the first few days, she had worn them quite as comfortably without the springs as she had the others with. This was an entirely new idea to Mr. Gardette. He at once comprehended the philosophy of it, and seems to have profited by it afterwards by adopting it in his practice. But it does not appear that this method came to be generally known, and practiced by the profession for more than thirty years afterwards. It is not probable that Mr. Gardette took any pains

to communicate it to his professional brethren. That was not the custom in those days. In the second edition of Dr. Fitch's work published in 1835, it is not even mentioned. In the edition of Harris, published in 1845, he describes, minutely, the method of making and applying spiral springs and concludes the chapter by saying that in some cases, by making the plate wider and getting a very accurate fit, sets can be worn without the springs. He speaks approvingly of the method—says it is preferable to any other. He makes no mention of the air chamber which has been so universally in use for many years past. I am not aware that spiral springs are in use by any one at the present day.

Many other improvements might be mentioned—the improved form of instruments, and all the necessary appliances of our profession now so easily obtained at the Dental depots—but I have already trespassed too long on your time and patience. But before closing, allow me to ask you to compare for a moment the condition of the Dental profession now, with what it was two thousand years ago—what it was a hundred years ago—what it was thirty years ago—and you will hardly fail to form some idea of the great and wonderful progress made. It is less than thirty years since the formation of the first Dental society in this country; but it is not to be supposed that it was formed without opposition. Many Dentists scouted the very idea, and would have nothing to do with it; and it is to the energy and perseverance of those high toned and liberal minded gentlemen who inaugurated the important movement of establishing Dental Journals, Dental Colleges and Dental Societies that we are indebted for these great results.

Dental Societies have had, and are having very great influence in improving our practice—in elevating our profession, and making it more respected by the community.

I know there are Dentists even now, who do not approve, or at least who do not attend the meetings of any society. But I venture to say that they are men who are satisfied with

moderate attainments, and in whom the spirit of improvement does not exist. They have fallen into a kind of routine practice and are satisfied to remain so. But the most eminent practitioners of our art, the shining lights of our profession, are to a man in favor of societies.

Those who opposed societies were in favor of elevating the dignity and extending the usefulness of the profession, but they proposed to do it by individual effort—which means, so far as I have been able to ascertain, to keep all the knowledge you have, and get all you can, but never communicate to your neighbor.

I venture to affirm that more progress has been made in the last thirty years by the combined agencies which I have mentioned, than would have been accomplished in a thousand years by individual effort.

Individual effort means—let every man take care of himself—and others take care of themselves—it means elevate yourself, but keep down your neighbor—in one word it means selfishness.

Gentlemen, if you drop a pebble into a pond of water you immediately see a circling ripple widening and spreading till it reaches the outmost bounds of the pond; and strictly speaking it may be said that every particle of water in the pond has been influenced and moved by the pebble. If instead, you put the pebble in your pocket no such result is produced.

If you drop a new idea in this or any other society, in like manner a circling ripple is formed and spreads from mind to mind till it permeates, influences, moves, and improves the entire body of the profession. If, instead, you keep it to yourself, and use it merely for your own benefit, no such result is produced.

Let me say then, in conclusion, that free discussion—the free interchange of ideas, and combined effort, are the true means of progress and advancement.

And now, gentlemen, in retiring from this chair, allow me

to thank you for the confidence reposed in me—and for the uniform kindness always manifested towards me—and to assure you that my sympathies and best wishes are with you in everything that tends to promote the interests of our Association, or to the improvement of our noble profession.



## CERTAIN EFFECTS OF MALARIA.

BY. JNO. C. K. CROOKS, M. D., NEW BALTIMORE, MICH.

It is not my purpose to write a general dissertation upon that mysterious cause of disease, *malaria*, but to call the attention of the profession to certain of its effects upon the human constitution, and more particularly upon the teeth and other organs of the mouth. Malaria, like any poisonous or antagonistic substance when taken into the system, produces disease in direct proportion to the *quantity* or the *power* of *the body to resist its presence*. Thus do we explain the fact that a residence of several weeks in our temperate climate, in a malarious district, is necessary to produce ague, while a night's exposure in the tropics will at once develop it in all its force; and, again, a healthy person may live along with apparent impunity where ague is prevalent, until some other disease has lowered his vital energies, and then it seizes him as a victim. From these principles we might infer that wherever malaria exists, there the inhabitants are more or less under its influence, whether ague presents itself or not; in other words, *that there are CERTAIN EFFECTS of malaria, certain VITAL PHENOMENA, which are directly traceable to malaria, as much so as that peculiar one which we term INTERMITTENT FEVER, and which are owing to a MINIMUM DOSE of THE POISON*. It is these phenomena that I shall more especially take into consideration.

In our investigation of all fevers, of diseases, the essence of which is that peculiar condition of the system variously termed "febrile action," "pyrexia," "idiopathic fever," etc.,

we find that the first impression of the morbid cause is upon the *nervous system*. This "conservative power," this seat of the "*vis medicatrix naturæ*," is alive to the presence of any poisonous influence, and early gives evidence to that effect, by setting up those wonderful processes whereby they may be eliminated or their deleterious effects neutralized. Now, these efforts of nature to preserve the system in a state of health, when the causes of disease are present, will possess an infinite variety, according (as it has been stated before) to the constitutional vigor, or the amount of poison present; and, (it may be added) according to constitutional peculiarity. If the amount is small, and the strength of the body good, the morbid effect may never go beyond the nervous system. This portion of the intricate machinery of which we are composed may be able, by great effort, to keep alive and in a healthy condition all the vital processes of the body; circulation, digestion, nutrition, secretion, elimination, etc. Again, should this nervous system *fail* to accomplish this, the morbid impressions may *extend* and some of the above functions may become disturbed, and in this manner all the phenomena of *fever* present themselves. To produce such a result, we must have, *first of all, a disturbance of the nervous or sensorial functions; secondly, derangement of the function of secretion and excretion; and lastly, derangement of the circulation.*

The nervous system suffering *first*, and that disturbance, never, in many instances, extending to other functions and thus developing that condition termed fever, we should expect, in such cases, a class of phenomena or symptoms *peculiar to that system and its known physiological actions*, and this, in every instance, holds true. The power of the nervous system being over-taxed in its labor to preserve order in the multitudinous operations of the body, or the nervous centres being themselves disturbed by the morbid cause under consideration, we have more marked, perhaps, than any other symptom, a condition of "exalted sensi-



bility," "irritability," "nervousness," etc. The brain and spinal cord feel more keenly, than in health, every impression made upon the nerves, they are over-susceptible and this over-susceptibility works out many interesting results, which are both curious and important to the practitioner of Dentistry as well as of Medicine.

As we thus have an increased sensibility of the nerves, of course that sensibility may extend to or be present in any of the nerves of sensation and may manifest itself *generally* in an irascibility of temper, petulance, restlessness, wakefulness, etc., or it may be exhibited *especially* as in cephalalgia, hemicrania, tic dolooureux, lumbago, sciatica, and even odontalgia, or a *sensitiveness of the teeth*. This latter state of things is *extremely well marked in highly malarious districts*. Let a practitioner of Dentistry go from a locality free from intermittents into one where they are the prevailing diseases, and unless previously well informed upon the subject, he will be *astonished* at the difference in the persons presenting themselves for operations. The first thing that will attract his attention will be the *timidity* of his patients. They will start at the least approach of an instrument, and in the operation of extracting teeth, where he has never failed to inspire confidence, there is an intense distrust, and from having had nothing but heroes and heroines to operate upon, he has unexpectedly discovered a race of cowards! Again, he may fill a tooth, which upon excavating the cavity, may have evinced a trifling sensitiveness, and at which he would "wink" under previous circumstances, he is now surprised with the return of his patient with the stereotyped complaint that he "can neither eat nor drink any thing hot or cold." In short, the touch of the forceps or the excavator, the file or the scaler, "wakes up" a sensitiveness which would seem to indicate, to the astonishment of the operator, that his new patrons *are endowed with nerves everywhere*, that they stand out at all points in defence of the castle they occupy, like bristling steel from a well mounted fortress!

Now, what modifications of treatment is demanded by this apparent anomaly, this pathological condition. Evidently, if the Dentist is a wise man, accustomed to analyze his cases, he will shape his proceedings according to *indications*, and operate only when he is *compelled* to operate, *until the nervous system is properly invigorated by suitable remedial agents*, by wine, bark, iron, quinine, and arsenic. He might as well expect to meet with success in filling upon an exposed nerve as to place a filling in contact with sensitive dentine, where there is that "irritability" of which I have made mention above. And it is just this state of things, in my humble opinion, which will frequently account for the different degrees of success experienced by operators of equal skill. The one has had an over-sensitive nervous system with which to contend, while the other has been blessed with healthful constitutions ready to accommodate themselves to circumstances; in the one instance, metaphorically speaking, the teeth were querulous and fault-finding, while in the other they were good-natured and obliging, ready to keep quiet under any treatment short of utter destruction.

To practice Dentistry in such a locality is something more than to practice where the hue of health is painted upon every countenance. To "fill a fang," for instance, and preserve the tooth is a stupendous undertaking, and he who counts his successful cases by the hundreds, may well congratulate himself that he is not in a malarious district.

But this *irritability* is not all. Sooner or later the nervous system *fails to preserve order* and the secretions and excretions become deranged. That large gland in the abdominal cavity, the liver, whose office it is to secrete bile, and the healthy performance of which has so much to do with a correct digestion, become disordered; it no longer does its work as it should, the digestive organs lose their tone, the salivary glands and mucous follicles of the mouth fall under the baneful influence, the gums become swollen and spongy, a tenacious and sticky secretion clings around their edges, and lastly the

teeth, unless great care is taken, become coated over with an irritating tartar, get loose, and are ready to drop from the alveoli, overcome by the accumulation of evils. This is a sad picture, yet how often it is seen in "bilious" localities. In deed, so common is it, that the attention of the physician is often excited from its resemblance to the constitutional effects of mercury, and so close is this resemblance occasionally, that mercurialization *cannot be detected* until the peculiar fetor attending it is perceptible in the breath.

The PATHOLOGY of these conditions, in some respects, is very well understood, while in others there is more or less obscurity. The exact state of the nerves and nervous centres in cases of "over-sensitiveness" is but a matter of conjecture. Some pathologists consider it a "condition bordering upon or approaching inflammation," others that it is "neuritis, either in the track of the nerves, or at their union with the nervous centres," others, that "it is congestion," while a few consider it the "direct effects of a poison in the blood," like a narcotic, etc. Which of these theories is correct is not of much consequence so long as we know the remedy. As to the pathology of the diseases which follow *next* in the chain of morbid effects, we know much more, and can say very safely, that it is a *congestion*, more or less passive in its character, arising from a want of action in the capillaries from nervous exhaustion and from a change in the normal condition of the blood. The capillaries are *enlarged*, *they have not the power to contract upon their contents*, and this state is aggravated by the want of a *healthy* stimulus from the blood circulating through them. Thus the blood flows sluggishly from this want of tone in the capillaries, notwithstanding the pulsations of the heart may be more frequent than natural. Now, as a direct result of this torpid condition of the capillaries, the circulation becomes loaded with effete matter from the disintegration of the tissues, and instead of a healthy and life-giving fluid from which vigor is imparted to the system, we have a poisonous compound, which com-

pletely staggers the "elective affinity" of the old authors, or the "chemical affinity" of more modern times. Under such circumstances disease is inevitable, and instead of order, there will be inexplicable confusion, so that the organs everywhere, particularly those concerned in secretion and excretion fall into a serious state of derangement or disability.

The TREATMENT for this aggregation of ills must, as it has been already remarked, consist in a *general sustaining and tonic plan*. The anti-periodics, at the head of which stand the preparations of bark, are indispensable. Although the phenomena of ague may not be present, still that peculiar state of the nervous system upon which ague depends has been induced by malaria, and nothing can reach it so effectually. But, as preliminary to the administration of tonics, *a thorough alterative treatment is of the greatest consequence*. The liver, above all the secretory organs, as that will always be suffering most, must be stimulated into greater activity. Mercury, in some form, should be given in small doses, and to increase its activity and to meet other indications, it would be well to combine it with ipecac and capsicum. The capsicum imparts tone to the stomach, while the ipecac determines to the surface, thus relieving, in a measure, the congestion of internal organs and materially aiding the operation of the mercury. While the alterative is being given, a careful watch of the dejections should be enjoined on the patient, and the moment they are well tinged with bile the mercury should be discontinued. A recurrence to this treatment may be demanded during the progress of the case, still if the medicine has been given in *moderate doses* and the *secretions slowly affected*, the impression will be quite permanent and further medication for the above purpose unnecessary. As soon as the liver has responded to this treatment, it will be discovered that the other secretions are also changed for the better. The urine, which has been loaded with the lithates will have become clearer, the skin, which has been sallow and dry, will have changed to a whiter and softer texture;



and the saliva, which has before been scant, tenacious and bitter will have been restored to its normal condition, and the teeth once more have a cleansing and purifying fluid in which to be bathed, instead of the thick and corroding compound which obtains under such circumstances, and which is enough to dim the lustre of the most brilliant masticators.

As soon as this change is accomplished, tonics can be given, and in addition to the preparations of bark (from the impoverished condition of the blood), iron should be freely administered. The most effectual as well as elegant combination will, perhaps, be sulphate of quinine and citrate of iron. These should be steadily and persistently given, watching in the meantime the different secretions, until the *blush of health is imparted to the faded cheeks, and the red globules restored in quantity and quality to the circulation!* To stop short of this would be to deliver our patient again to the destroyer. This must be the goal to be reached, and long exertion must be put forth to accomplish such a desirable end.

In addition to the above general measures, a well regulated local treatment will accomplish much. Early in the management of such cases, the chlorate of potash or a weakened preparation of Labarraque's solution will have a wonderful effect upon the unhealthy condition of the saliva, neutralizing many of its poisonous properties, and imparting tone to the gums, the mucous follicles, etc. These can be applied alone, or combined with tannin, tincture of kino or catechu, which, from their astringent properties, will assist a great deal in giving firmness to the loose and spongy gums.

With such treatment, wisely and perseveringly carried out, we can promise a restoration and recovery to our patients, and a condition obtained where a simple operation upon the teeth shall not be a dread both to the Dentist and his subject.



NEW ORLEANS, Oct. 7, 1867.

## MESSRS. EDITORS :

Believing it the duty of every Dentist who has the welfare of the profession at heart, to impart any new idea that may prove beneficial, I send you my method of preserving exposed pulps. Impressed for many years with the importance of saving the pulp alive, in every possible case, I have tried with varying success, every material that I have seen well recommended, for "capping the nerve," finding none of them entirely satisfactory.

We want something that will prove *congenial*, when brought in contact with the exposed pulp—that will be capable of thorough adaptation to the wall of the cavity, and that will protect the pulp, not only from the pressure of the filling, but also, from the changes of temperature.

Having about two years since an unusually difficult case, in which the patient (a lady) was very desirous of having a pulp saved, and being satisfied that nothing which had been tried, would prove equal to the occasion, it occurred to me that *vulcanized rubber*, ought to answer the conditions, better than anything that had been used.

The tooth was the right superior, central incisor, cavity very large, in the labial surface, exposure large, but pulp healthy, and patient ditto, age thirty, temperament nervous sanguine. I took a piece of rubber plate, with one side finely polished, and after filing it to the proper thickness, cut out the cap, in form to suit the cavity, then, with a fine file, dressed the edges thin, leaving it thick enough in the central portions, to sustain the filling. Having the cavity well prepared, I placed the cap over the exposed pulp, and filled with gold.

Notwithstanding the size of the cavity, and its peculiarly exposed position to all thermal changes, the rubber being a nonconductor, and the thin and pliant edges giving it a thorough adaptation, proved so good a protection, that the patient has never felt any inconvenience, even in drinking ice-

water. Thus encouraged, I have tried it in, perhaps, fifty cases since, being careful that the pulp shall be always healthy, and although I have used it in each case, with the understanding that it was an experiment, the patient promising to inform me of any want of success, I have not heard of a single failure.

As my experience in this method of saving pulps has been so exceedingly satisfactory, I offer the idea to the profession, hoping that by so doing, I may enable others to *save more teeth alive*, and induce them to abandon the too common practice of murdering every dental pulp that has a slight exposure.

J. R. WALKER.

## Proceedings of Societies.

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### THE WESTERN NEW YORK DENTAL ASSOCIATION.

The Western New York Dental Association held its Fifth Annual Meeting in Sons of Temperance Hall, in Lockport, commencing on Tuesday, Oct. 1, 1867, and continuing two days. Although but thinly attended, it was a session of unusual interest to those present. Much of this was owing to the presence of several Dentists from abroad, among whom was Prof. Taft, of the Ohio College of Dental Surgery.

The retiring President, Dr. R. G. Snow, read the annual address, a copy of which was requested by the Association for publication in the DENTAL REGISTER.\*

At the annual election of officers Dr. L. J. Walter, of Lockport, was elected President; Dr. A. P. Southwick, of Buffalo, Vice President; Dr. J. Requa, of Rochester, Treasurer; and Dr. W. C. Barrett, of Warsaw, Secretary. The subjects for discussion were:

1st—The manner of preparing teeth for filling, and the reasons for annealing gold. Essayist, Dr. A. P. Southwick.

2d—The different methods of preparing gold, and their relative merits. Essayist, Dr. G. C. Daboll.

3d—Mechanical Dentistry. Essayist, Dr. W. C. Barrett,

4th—Management, and the best means of preventing the destruction of the deciduous teeth. Essayist, Dr. Frank French.

5th—Materia Medica, and its relations to Dental practice. Essayist, Dr. L. W. Bristol.

Animated discussions were held upon all of these subjects, eliciting some original methods of practice.

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\* For which see the first article of this number.—ED.

Dr. Taft gave a history of the effort to induce the Ohio Legislature to pass a bill regulating the practice of Dentistry in that State. A committee was appointed to agitate the subject in the State of New York. Resolutions were introduced condemning the practice of gold beaters putting up their foil under other than their own stamp, and recommending those beaters who have uniformly refused to do so, to the patronage of the profession.

Dr. Hayes introduced a new device for the more perfect packing of rubber plates, and showed very perfect specimens of its work.

After a vote of thanks to Prof. Taft for his kindness in throwing up business engagements to attend the meeting of the Association, and to Dr. D. J. Walter, and L. W. Bristol, of Lockport, for their hospitality in entertaining the profession, the Association adjourned to meet at Buffalo, on the first Tuesday in May, 1868.

W. C. BARRETT, *Secretary*.



## ORGANIZATION OF TENNESSEE DENTAL ASSOCIATION.

Pursuant to a call made at a preliminary meeting of the Dentists, of Memphis, on the 20th day of June, the following members of the profession convened at Nashville on the 26th of July, and organized the Tennessee Dental Association.

Present—Drs. W. H. Morgan, Nashville; G. W. Acree, Wm. T. Arrington, J. B. Wasson, Memphis; J. A. Arrington, Jackson; H. M. Acree, Clarksville; R. Russell, J. C. Ross, S. J. Cobb, W. P. Wilson, Nashville; Alex. Hartman, Murfreesboro; M. McCarty, Pulaski; T. E. Beech, Franklin; W. R. Johnston, Columbia.

At 10 A. M., with Dr. Morgan as Chairman, *pro tem.* and Dr.

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Ross, Secretary, the house was called to order, and the following committee appointed to draft Constitution and By-laws for the Association: Drs. Wm. T. Arrington, Chairman, S. J. Cobb, W. R. Johnston.

A nominating committee was also appointed: Drs. J. B. Wasson, Chairman, Alex. Hartman, R. Russell.

While the committees were in session Drs. G. W. Acree, and W. H. Morgan addressed the meeting upon the subject of *Dental Education, State and Local Organizations*, and the importance of prompt and immediate action towards the general advancement of the Dental profession.

Committee on Constitution and By-laws presented a paper which was received and committee discharged. On motion the paper was taken up by sections, discussed and voted upon, and then voted and approved as a whole and adopted as the Constitution and By-laws under which to organize.

The Committee on Nomination made the following report:

Dr. W. H. Morgan, for President.

Dr. J. B. Wasson, First Vice President.

Dr. J. C. Ross, Second Vice President.

Dr. Wm. T. Arrington, Recording Secretary.

Dr. R. Russell, Corresponding Secretary.

Dr. Alex. Hartman, Treasurer.

Drs. G. W. Acree, J. A. Arrington, W. R. Johnston, Executive Committee.

The meeting adjourned for dinner and convened at 2½ P. M. An election was held and those nominated duly elected by ballot to serve as officers in the Association for the term of one year, and after being properly installed, the President made a few appropriate remarks, and then declared the Association organized and ready for business.

On motion of Dr. W. T. Arrington it was resolved that the Code of Ethics of the American Dental Association, be approved and adopted by this Association.

Adjourned to meet at 9 A. M. Saturday, 27th.



SATURDAY, July 27.

Society met. Minutes read and approved.

On motion it was resolved that the Semi-annual meeting be held at Jackson, from the 20th to the 24th of December next, and the Annual meeting to be held at Memphis, on Wednesday preceding the last Tuesday in July, 1868.

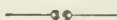
Drs. Morgan, Acree and Beech were duly elected delegates to the American Dental Association at Cincinnati.

Many interesting subjects were discussed, and the liveliest interest manifested by all present.

On motion it was resolved that the Secretary be requested to furnish the *Dental Cosmos*, the *American Journal of Dental Science*, and the DENTAL REGISTER, with a synopsis of the proceedings.

Adjourned at 12 M., to meet at Jackson on Friday, the 20th of December.

WM. T. ARRINGTON, *Rec. Sec'y.*



CINCINNATI, Nov. 7, 1867.

At a meeting of the "share-holders," of the Association, to contest the claims of the "Goodyear Dental Vulcanite Company," convened in the lecture room of the Ohio Dental College, Dr. James Taylor was called to the Chair, Dr. W. P. Horton appointed Secretary.

Dr. J. Taft, in behalf of the Committee, made a brief statement, and at the close of his remarks Col. S. S. Fisher, Attorney for the Dentists, made a verbal report, after which, remarks were made by most present upon the general subject.

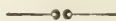
On motion of Dr. Cushing, the Chair appointed a committee of three, consisting of Drs. Geo. H. Cushing, J. Taft, and A. A. Blount, to report a resolution expressive of the sense of this meeting. The Committee, after consultation reported the following :

*Resolved*, That we approve the course pursued by the Executive Committee, and Attorney, who have been acting for the Dental profession of the West, in contesting the claims of the "Goodyear Dental Vulcanite Company," against the profession; and that we request them to continue the defense to the ultimatum, believing that notwithstanding the decision of Judge Nelson, in New York, the importance of the subject demands a full and final investigation by the highest tribunal in the Country.

On motion the report was accepted and adopted.

On motion adjourned *sine die*.

W. P. HORTON, Sec'y. JAMES TAYLOR, President.



THE following resolution was adopted at a meeting of the Chicago Dentists, held Monday evening, Nov. 11, 1867 :

*Resolved*, That the Dental profession of Chicago approve the action of the Executive Committee of the Ohio State Dental Association, in defending the suits pending between the Goodyear Dental Vulcanite Company, and different members of the profession. And that we request them to continue their defense until a final decision of the Supreme Court of the United States, at Washington has been obtained.

## Editorial.

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### LEGAL RECOGNITION AND PROTECTION.

As most of our readers are aware, a movement in this direction has been on foot for two years past; but without a definite result so far as obtaining the object sought was concerned, and still not without very considerable results in the way of agitation, and awaking attention to the matter. The movement was first made in Ohio; and since that time it has been taken up by almost all the neighboring States, and in some of them the prospect of an early success seems far stronger than in our own; though the presumption is very strong that such a law would have been in full operation in this State at this time, had proper attention been given by the profession to the matter at the last session of the Legislature. At that time there seemed to be nobody to give it needed attention. If the matter is ever accomplished it must be by the active efforts of the members of the Dental profession, and that too by all who feel an interest in it.

It is useless, and wrong for a work of such great and general interest to be devolved on the shoulders of three or four persons. There should be a hearty co-operation upon the part of every member of the profession in the State, who feels an interest in it.

The necessity of a law for the protection, primarily, of the people from the hands of the empiric and unqualified; and secondarily, for the protection of the true Dental profession from the evil influences accruing from the same source, is so apparent as scarcely to require mention.

In regard to the first, let the many thousands of cases of irreparable mutilation, and of intense and protracted suffering, in many instances bringing the sufferers to an untimely death, testify. Oh that such cases could speak with trumpet tongues, to ring

through all the land the wrongs and outrages committed ! Our legislators would then hasten as one man to grant the needed law. We are almost daily witnesses of mal-practice by those professing to be Dentists, that ought to consign the perpetrators to a prison, if not a worse fate. Perhaps this may be regarded as an extreme view. Could we bring the witnesses upon the stand, we could prove it beyond all possibility of a cavil to be a mild view. What ! Shall men, women and tender children be marred, mutilated and rendered miserable for life, by having the beautiful, symmetrical human face, through which the soul shines and speaks transformed into a deformed and unsightly thing, through which the soul refuses to give its correct utterance; and no one raise a warning voice, and none to ask for that protection which they should have ? Nay, verily !

Hundreds and perhaps thousands of these incompetents are prowling through this and the immediate neighboring States, committing their depredations wherever an opportunity offers, without let or hindrance. But it is said, that "the people love to be humbugged." It is not true; it is a libel on humanity, and generally those who make such utterance know it. People many a time submit to wrongs and grievously injurious things, and it may be at the time very willingly too; but always to repent it when true knowledge comes. People submit to these things because of a want of knowledge on their part, and through the falsehood, deceit and misrepresentation of others. Knowledge on the part of the people would remedy this, as well as many other evils; but that will be the work of years, and perhaps of generations, and to meet the difficulty in the meantime something else must be done, and we can conceive of nothing better than stringent legislation. It has been said that the proper education of the Dentist would remedy the difficulty. This would only accomplish the object when all men become honest, and when every one who chooses to enter the ranks of the profession, can be trained to the possession of the requisite ability to perform its responsible duties. Experience teaches us that many seek to enter all professions who have not, and never can possess, either natural or acquired ability.

The objection has been urged that such a law would be oppres-

sive upon many honorable and well meaning practitioners, who have not enjoyed all the advantages now open to the student, and consequently are deficient in their knowledge of many details. Laws are made for the transgressors of the right. Such a law should and doubtless would be framed and enacted as would be restraining to the dishonest and incompetent; and certainly no one would desire that either the one or the other should perform so responsible and important a duty for himself, neither would he permit it, if he had a proper appreciation of the whole subject.

The greatest benefit resulting from such a law would probably be prospective, operative in its influence more upon those who enter the profession hereafter, than those now in it; and still the present tide of quackery ought to be checked as far as possible.

The work now lies at the door of every honorable practitioner of our profession in the State. And does any one ask, "What can I do?" 1st. By all proper means and opportunities endeavor to create a right public opinion on the subject; and 2d. Circulate and get signatures to petitions for such a law. We will send from this office copies of such petitions, with a copy of the proposed law, to all Dentists in the State within a few days; and we would urge their immediate circulation, and when filled let them be placed in the hands of the Legislators of the respective localities; or if that is impracticable, let them be sent to the office of the DENTAL REGISTER. 3d. Let no Legislator, either Senator or Representative, go up from any part of the State on the 1st of January, without fully understanding the subject in all its bearings; let all questions and objections be as fully answered as possible, that they may be able to act understandingly and promptly.

Now then, this matter rests upon the members of the profession throughout the State, which if well performed, we doubt not all will be obtained that is desired. Then let us all go promptly to work.

T.



## THE DENTAL ASSOCIATION OF WESTERN NEW YORK.

THIS Body held its regular semi-annual meeting at Lockport, on the first Tuesday of October. As is usual with this Association, this meeting was a good one. It is composed of men who are working earnestly for the elevation and prosperity of our profession. The subject of legal protection for the profession and the people of the State of New York from Dental empiricism was considered at some length, and a committee was appointed to take action in the matter, with special reference to laying it before the Legislature, and we sincerely hope their efforts may be crowned with success.

The time is rapidly approaching, if it is not already at hand, when our Associations will be constrained to take up, consider and act upon other subjects than merely a routine of business, and the discussion of modes of practice and subjects immediately connected with it. While we fully recognize that our profession requires all that has been done in this direction, and far more, yet it is becoming more and more apparent that there are other matters bearing strongly upon the profession, that cannot be much longer overlooked or forgotten; and this subject of legal recognition we regard as one of them. And again, the subject of professional education is one that must be taken hold of by the profession with far more earnestness than hitherto; something in this direction has been done by a few, and a very few of our associations. Why is it that our colleges are not far more efficient than they are? Simply because the profession has not demanded it; and the profession can only make its voice heard forcibly through its associations.

We have for a long time felt that the members of our profession do not recognize and appreciate the power there is in associated effort. We know that many place altogether too low an estimate on this instrumentality. Dental Associations have thus far, for the most part, been too feebly organized; and we would suggest that all of our more important societies become incorporated,—possess a legal existence; and that members value them more than heretofore, and let not trifling things keep them from the meetings; and when present, always be prepared each to perform his full share of the work.

T.

## REPLANTED TEETH.

On the 7th of July last, Mr. A. C., aged 20, called at my office to consult me in reference to an accident by which his upper central incisors and the right lateral had been knocked out. The accident occurred at 4½ P. M., and it was now 7½. He had in his pocket the centrals, attached together by a portion of the gum—the "*ligamentum dentis*." The teeth, and the soft parts adherent to them, appeared perfectly dry. The hemorrhage was still active.

On examination, I found the socket of the right central badly fractured, and the soft parts about it much bruised and lacerated. The patient was pale, having a cadaverous look, a strumous appearance, and a despondent countenance. I have found since that his vital powers are not good.

I washed out the sockets with tepid water, and replaced the centrals, retaining them by a temporary compress, and sent him in search of the missing lateral. The distance was about two miles, and he was gone nearly two hours. At 9½ P. M., five hours after the accident, the lateral was replaced, after carefully washing out the socket with tepid water, and a gutta percha splint or compress was so adjusted as to hold them all in proper position. This splint was worn till 10 A. M. next day, when the teeth were found to be slightly adherent. As a precaution, the splint was replaced at night for a short time, and then wholly laid aside. Inflammation was combatted, locally and generally, by ordinary means, and really gave but little trouble.

This is the case I reported at the late meeting of the American Dental Association. I was requested by several to report progress again, and promised to do so, unless I lost the run of the case. The tooth in the fractured socket was the most difficult to manage. Like the rest, however, it became perfectly tight—firmer than before the accident. All progressed satisfactorily till about the middle of November, when a small alveolar abscess made its appearance over the right central, that with the fractured socket, giving the patient but little pain, and now causing no trouble. As soon as the patient can control his time, I expect to treat this. The other two teeth are not changed in color.

W.

## INHERITED DISEASES.

A CASE—BY HENRY S. CHASE, D. D. S.

A CASE illustrating the above, came to my notice a few days since, so beautiful in its development that I must report it :

Mrs. D., German. Has right upper lateral incisor decayed, which I have plugged. She says her mother has the same tooth plugged, while all the others are sound. Two sisters have lost the same teeth by decay, while the others are good.

How important that this law of reproduction should be better understood ! “ Like produces like.” If both parents before producing a living being like themselves, would have their own teeth put into a healthy condition, is it too much to affirm that the off-spring would have a better denture than if conception occurred under opposite circumstances ?

This is a *fact* in Dental hygiene which cannot be disproved.

Not only are *natural* habits and forms of body transmitted to off-spring, but acquired forms also, in some cases. Thus have children not unfrequently wanted a member of the body which had by accident or disease been removed from the parent.

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Cases analogous to the above come under the observation of nearly all experienced Dentists ; but that does not render this case uninteresting. We have yet much to learn in regard to hereditary influence. That an artificial condition is transmissible from parent to off-spring is denied by many who admit, as they must, that natural ones are. All will agree that tubercular disease is hereditary, yet that is an artificial condition. But the objector will say that the blood, the entire vital fluid, is contaminated, and that the case is not analogous to that of a lost organ, with the remaining organs of the system healthy. But instances are not uncommon like those alluded to in the closing lines of the above article. A noted one in comparative physiology was observed by us in our boyhood : A dog, the only one of the kind in the neighborhood, had his tail cut off when he was but a few weeks old. In a series of years he was repeatedly mated with a long-tailed bitch, other dogs being carefully excluded. In almost every litter short-tailed pups were found, whose form, color, and texture of hair, would have clearly shown their paternity had there been any room for doubt.

The advice to parents how to proceed "before producing a living being like themselves" is good; and even if they are not going to do any thing so marvelous, it would be well "to have their own teeth put into a healthy condition." W.

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"EXOSTOSIS."

By the above term we mean a hypertrophy, or increased growth of the cementum. Many cases of facial neuralgia and toothache are due to enlargements of the roots of the teeth. A deposit of cementum, abnormal in quantity, causes pressure on the dental periosteum, unless it takes place so gradually that room is made for it by absorption of the walls of the socket.

Usually the first manifestations of pain are slight. The patients are apt to speak of "grumbling" pains. The suffering is not often continuous, but comes on in paroxysms, caused probably, by local or general disturbance of the circulation. In malarious districts the paroxysms are often strictly periodical; and the disease is, hence, often called "ague of the face," "dumb ague," etc. And, to accord with these names, the treatment often resorted to is strictly of the anti-periodic, or *anti-malarial* character. Quinine, bark, iron, arsenious acid, strychnine, and kindred agents are given, and sometimes with decided relief for a time. The malarial poison, by disturbing the circulation, produces a determination of blood to, if not congestion or inflammation in the dental periosteum, thus causing sufficient pressure to produce pain; and when the febrile reaction is over, the pressure is relieved, and the pain abates. It is on this principle that anti-malarial treatment gives relief.

A case of cemental exostosis may progress for months and years, the patient suffering, more or less intensely, in paroxysms, often unable to locate the origin of the trouble, and finally terminate in complete relief, without the removal of the offending organ. Years afterward it may become advisable to extract the tooth—as in preparing the mouth for artificial substitutes—when the excess of cementum explains all the past suffering. That many spontaneous cures are thus observed by all operators, there can be no doubt. Indeed, in many cases, the patients affirm that they have at no time felt pain. On being closely questioned, when an

exostosed root has been extracted, they will sometimes admit that there had been at times a little "grumbling," or burning, or an "itching sensation," but so long ago they had almost forgotten the fact.

"Exostosis" is not a favorite disease with Dental practitioners; nor is it very popular with patients. Sound teeth are often extracted on account of it, the patient becoming so desperate that if the family Dentist will not extract according to order, another operator is resorted to; and, unfortunately, in the present state of practice, patients have but little difficulty in obtaining any dental mutilation, however outrageous it may be. Often too, as a dernier resort, respectable practitioners extract with the hope of giving relief; and if the extraction reveals a case of hypertrophied roots, he congratulates himself on having done a capital thing, and triumphantly exhibits the offending member to the patient, who goes away light-hearted, light-nerved, while but a trifle lighter in pocket.

Not many years ago it was a common sentiment in the profession that if a tooth ached, extraction was indicated; later still, if alveolar abscess developed, extraction was considered the appropriate treatment. These sentiments are not now held by any in the profession. But a large majority of our professional acquaintances speak and act as if "exostosis" were not amenable to treatment. When they have extracted a tooth thus diseased, they appear to think they have done all that our science is capable of doing for the case.

But do not the spontaneous cures referred to above, and the many cases which have never given pain, suggest something entirely different?

In some constitutions the blood appears to contain an excess of bone-making material. Such are liable to this disease. Any thing producing frequent, or prolonged, but not severe irritation of the periosteum, is likely to cause an ossific deposit in the part irritated. Hence, teeth which have to sustain more than the normal amount of pressure in mastication, are especially liable to "exostosis." It is on this principle that the disease is so frequently found in isolated teeth, and those which do not antagonize *directly* with their opponents. On the same principle it is often found on the roots of teeth which have lost their pulps. The periosteum



takes on increased circulation to preserve the vitality of the tooth; and this often results in increased bony deposit.

In the *treatment* of "exostosis" two things are indicated: one is to arrest the deposit; the other to excite absorption so as to make room for the matter already deposited. Palliative treatment, for the comfort of the patient is desirable. It is scarcely necessary here to go into detail.

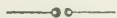
Fortunately both the indications above mentioned may be met by one and the same medicine; and that is the well known Iodide of Potassium. It may be given at the rate of half a dram to a dram each day. Sometimes it should be continued a week or two without interval, when it may be suspended, to be resumed in a few days if the symptoms demand it.

For the *modus operandi* of this medicine, the reader is referred to the last number of Vol. XX, of the REGISTER, or to WATT'S CHEMICAL ESSAYS, published by Dr. S. S. WHITE. W.



#### TRANSACTIONS OF THE AMERICAN DENTAL ASSOCIATION, 1867.

THIS volume is out *on time*, and makes a fair appearance. It is quite a satisfaction to be able to read it before we have forgotten that there has been a meeting of the Association. It is not a large book; but it contains all the papers referred to the Publication Committee, as well as the official minutes and a synopsis of remarks and discussions. The size of the book, 133 pages, will suggest to the reader who was at the meeting, that the *spoken* proceedings predominated over the *written*. As is usually the case, the *best* of the meeting is the parts that can not be included in the published transactions. We sincerely thank the Committee for the promptness with which the work has appeared, as well as for its creditable appearance. W.



#### PERSONAL.

WE have somewhat recovered from an attack of modesty which we had about a year ago, and from henceforth shall not hesitate to append T. to our editorials when we feel like it, except those that have W. We have come to the conclusion that as we have but few letters to our name, and no title worth speaking of, that we must make the best possible use of them; however we will use but one at a time, and they will hold out longer.

T.

## FINANCIAL.

WITH the next issue of the REGISTER, which will be the closing number of Vol. XXI., we shall send out bills to all who are in arrears for subscription; and we hope that all such will be ready and respond promptly.

The sums are small, we know, especially to those who owe them, but in the aggregate very large to us, and the REGISTER very much needs these sums. And indeed, we will suggest that no one who knows himself to be indebted need wait for the bill, but anticipate its coming by sending the amount. There are a few who owe us such sums on subscription that we are unwilling to have them larger until they are paid. A hint to the wise is sufficient.

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## THE LAKE ERIE DENTAL ASSOCIATION.

THIS Body held its regular meeting in September last, at Westfield, N. Y. This society is in active working operation, composed of good men and true, who have the best interest of their chosen profession at heart; and are doing all they can in associated capacity for its support and development. The papers read were good, and evinced much thought and research. The discussions were warm, earnest, and interesting; having for their aim the unfoldment of the truth, and its application for the progress of the science and art of our profession.

This association will work great good for the profession in that region of the country.

The subject of legal recognition and protection was discussed, and a committee was appointed to take measures to secure the desired legislation. We feel confident that this society will perform its full measure of work, for its members are wide awake.

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T.

## DENTAL MEETING.

THE fifth annual meeting of the Central States Dental Association will be held in the City of Louisville, Ky., commencing on Thursday, December 26th, 1867, at 10 o'clock, A. M.

This will be the most important meeting of the Association, besides being the most interesting one. I am assured that there will be present several leading Dentists of New York, Philadelphia, St. Louis, and other places. It is to be hoped that all who can possibly do so will be present.

W. H. SHADOAN, *Secretary*.

# THE DENTAL REGISTER.

VOL. XXI.]

DECEMBER, 1867.

[No. 12.

## Original Communications.



### THE SPECTRUM OF THE CRIMSON TIDE.

BY RUFUS KING BROWNE, M. D.

IF Newton put our sun and the planets in a scale and accurately estimated their weight, so the discoverers of spectral analysis, by *means* of the light of both sun, planets and stars placed them in a sure testing tube and analyzed them, ascertaining their constitution, their state of aggregation, and nearly completely their chemical composition, with the same certainty with which we analyze in a crucible, a fragment of the crust of our earth. The one was a vast physical problem solved, the other a vast chemical revelation.

Almost everybody who has learned the meaning of the name knows the wonders that spectral analysis has accomplished, in the varieties and states of matter, near to, and most remote from us.

It has *shown* the world the actual existence of burning stars, those apparently just kindling, flashing, and extinguishing bodies. Astronomy was forced to suspect more than existed: and has ascertained the chemical character of their conflagrating substance.

This it does because the brilliancy of such a substance, or any substance, in such a vaporous state will present to the

view transmitted through a prism, a three-cornered piece of transparent polished glass, a telescopic lens, of which two the spectroscope consists—one or several colored lines—which appear only (each one or several) from the light of each substance.

But it has achieved far greater wonders with the matters within us. the changing and transforming substances of our flesh and blood. But what is most marvellous is, that in this field of employment it has met with substances far more delicate in their powers of revelation than itself, that is to say, substances without the intervention of which, the spectroscope itself would fall far short of detecting in such infinitesimal quantity. Let us briefly narrate the story: Rushing in all the minute blood channels, which in great part constitute our fleshy structure, frequently at a velocity which no mass of either living or inert matter, either least or greatest in nature has yet equalled\*—mingling with the amber colored stream of liquid of the blood, are certain minute reddish, rounded, soft solid bodies, the blood-red corpuscles.

High powers of the microscope, in the hands of the most skilled observers reveal, that scarcely any two of these *are of precisely the same size*, some of them are from five to six times the size of others. It is agreed that in human beings, their average length is about the 1-2400 of an inch. It would be possible if they were closely packed together, for 8,126,464 to lie in a space occupied by a pin's head. The tiny red drop which issues from the puncture of living flesh, by a prick of a needle, consists of about 5,000,000 of these bodies; and a room sixty feet long, thirty feet wide and fifteen feet high, could not contain so many grains of corn as there are red corpuscles in a single teaspoonful of human blood.

The chief and peculiar office of these little bodies has been

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\*I have calculated that the blood-red corpuscle moves four hundred times its own length in a second.

long suspected, by the circumstance of their regularly undergoing two changes of color during their round of the circulation. One change from a purple hue to a scarlet, and another change from the latter hue to the former. These little bodies are the carriers of oxygen from the lungs, where they take it from the air, throughout the body. During its passage through the blood vessels of the lungs the blood expels carbonic acid, and appropriates oxygen. This oxygen it is now known is taken up by the red corpuscles. Ever since this fact was discovered it has been assumed by physiologists that the coloring matter of the corpuscles was capable of combining with oxygen in the lungs, and of afterward giving out that oxygen again in small increments, as it were—to the substances surrounding the blood vessels—*i. e.* the tissues. Spectral analysis gives us the perfect demonstration of the fact.

Years ago, somebody recorded the curious fact, that when a ray of white light passes through a *solution* of blood, and is then passed through a prism, *two* dark bands make their appearance in the green color part of the spectrum. Lately a distinguished English physicist verified and repeated the fact, but in his hands it became the initial step of a new train of research.

This observer treated a solution of red blood corpuscles with a “reducing” agent, that is, an agent which steals away the oxygen from the reduced substance, and observed the color of the solution. It almost instantly changed from the color of the red corpuscles of arterial blood, scarlet, to purple red, the hue of venous blood. On examining the spectrum of this, by means of the spectroscope, he observed that the two dark lines had disappeared, and that only a single line intermediate in position between them, was visible. On shaking a part of the solution of red corpuscles in a tube with air, the scarlet hue returned; and when again examined by the spectroscope the two lines in the spectrum, characteristic of the scarlet colored substance re-appeared; but these again



after a few minutes disappeared, and the solution showed by the spectroscope, the one line characteristic of the now purple hued substance of the solution of red blood corpuscles.

The spectroscope thus demonstrated that the scarlet arterial blood lost its oxygen in the first instance, to the reducing or deoxidizing agent, and subsequently appropriated oxygen again, from the air when shaken in it.

This, to physiology immensely important, because truly demonstrated conclusion, was thus stated by the discoverer :

“The coloring matter of blood, (of its red corpuscles) is capable of existing in two states of oxidation, distinguishable by a difference of color, and a fundamental difference in the action on the spectrum. It may be made to pass from the *more* to the *less* oxidized state, by the action of reducing agents, and recovers its oxygen from the air.”

But even more wonderful, physiologically considered, is an unnarrated fact, which has not yet traveled beyond the private records of observation. This is the fact, that these red globules, are not, as is universally believed, carried by the fluid as impelled by successive contractions, from the heart, but move through the liquid blood, at a much faster rate than the liquid itself. Each globule may, therefore, move at a rate different from time to time, and different from its fellows, although in general terms, they concur or move together at a certain rate. Upon the perception of this fact, no doubt, will turn many future discoveries of the condition of varying states of health and disease. Mankind have always had a dim instinct, hitherto uncorrected and unsupported by science, that many states of disease are dependent on the blood.

May it indeed, turn out to be at least scientifically true, that “*The life is the blood.*”

In these observations, there was a perfect demonstration that this coloring matter, constituting the distinctive matter of the red corpuscles, named *cruorine*, could easily pass from one state to the other, and the reverse.

In the more oxidized—the scarlet state—that in which it is found giving, by the corpuscles, to the arterial blood, its scarlet hue, it is distinguished as *scarlet cruorine*, and in its reduced or less oxidized state, that in which the red blood corpuscles give to venous blood its purple hue, it is known as *purple cruorine*.

It is hardly necessary to designate what a consummate explanation these facts afford, of the oxygen appropriating and carrying capacity of the red blood corpuscles, nor what a soul inspiring exemplification it is of the achievements of spectral analysis.

In the lungs the purple cruorine of the red corpuscles of venous blood, appropriates the oxygen from the atmosphere, and becomes *scarlet* or arterial cruorine; and in the whole of the general circulation—in the minute blood channels, this cruorine of the red globules having passed through the arterial part of the circuit, loses a part of its oxygen and passes back to the purple or venous state.

But those results, high though they be, have been exceeded in direct practical consequence, to the world at large, by those achieved with the micro spectroscope.

An eminent London optician, Mr. Lorby, has in inventing and using it, supplied medical jurisprudence with a new and certain means of identifying the character and variety of dried blood stains. By it a scrap of blood-stained fabric, 1-10 of an inch square, containing possibly, not more than 1-1000 of a grain of red corpuscle coloring matter, may be ascertained to have received the blood from one or another source.

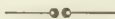
But, the at present crowning result of these observations, is that the cruorine itself is a sure test, for a far smaller quantity of substance by itself than either the spectroscope or micro-spectroscope can take account of, except by means of it.

If a weak solution of blood be inverted in a test tube over mercury, it reduces itself to the state of oxidation of venous

cruorine, and a small prism will then show the one line spectrum, characteristic of purple cruorine, but if a single drop of distilled water be added, the oxygen in solution (not in combination) in that drop, will restore the cruorine to its scarlet state.

This change of state in the oxidized substance, the cruorine, will be at once shown in the spectroscope, but the amount of oxygen by itself which the cruorine thus appropriates, and by which it changes its state, would never be revealed *by itself*, or in any other way known to us, even by the spectroscope.

In presence of these scientific triumphs, we are impelled to inwardly exclaim, that the blood which is the life—the most wonderful of fluids, is no longer the hopeless mystery it was, but has yielded its most ulterior secrets to the patient worker.



## CLEANING TEETH AND DENTIFRICES.

BY G. A. MILLS.

Read before the Brooklyn Dental Association, May 1st, 1867.

Is there a subject more closely allied to the Dentist than that of cleanliness? I commenced this paper under the conviction that it was a blessed thing to be clean, to say nothing of its health-giving properties. If any desire to feel that they are clean, I would advise them to take the benefit of a Turkish bath, as I did an hour previous to the writing of this paper, and think, if I succeed in anything that will be suggestive, it will be due in a great measure to cleanliness. Who, more than the Dentist, needs to be clean in the body, yea, in spirit? then all the works of our hands *will* be clean also, and not till then. We have heard much from our worthy brother Atkinson about clean operations, and receiving clean money. There is a world of truth in this idea. The oft-repeated saying, "that cleanliness is next to godliness," should be the talisman of our daily life.

I am quite sure, the matter of cleaning teeth is not so fully comprehended by us as it deserves to be, so far as my own experience and observation extends. I well recollect my first experience in cleaning teeth literally. It was while studying with my first tutor in Dentistry. I took them to the laboratory (I speak of extracted teeth) and with stick and pumice for a time, then with the lathes and whiting and brushes, I succeeded in producing a beautifully polished tooth. I was surprised to find the human teeth so susceptible to a fine polish. I have since that time resolved, and re-resolved, to produce the same results in the mouth; but I am sorry to say it is a duty long neglected. Dare I say, or any person, it cannot be done? on the contrary, it can; and this I have proved since our last meeting, much to my joy, and that of the patient. Why has the importance of thus polishing the teeth, been so seldom brought to our notice. Should this meet the eyes of the Dental profession, I have no doubt there are legions who would say, *this is my daily practice*. How many Dentists do you think there are, who clean teeth in the strict sense of the term? Not more than one in a thousand. This may seem a very extravagant statement, but I am willing it should go out. This operation is less perfectly performed than any we are called upon to do. I am strongly inclined to believe that a large per cent of the teeth are lost to the possessor for the want of proper cleaning, both by neglect on *their part*, and that of the *Dentist*. This, sir, should not be placed at our door; but, *in part*, it belongs there, and justly too. Why? Simply because we deceive the patients by educating them falsely. When *we* urge upon them the necessity of keeping their teeth clean, we should first give them an example to follow, by first putting them in proper order. How do we clean teeth? By removing all the foreign matter we see and leaving that we do not see, because we do not look where it is. There is much iniquity hidden from the natural eye, but it is a growing worm and the yellow leaf is too soon seen. A large

proportion of the destroyer lies hidden under the margin of the gums, sometimes producing irritation to such an extent as to cause the death of the ligamentum dentium; then follows the death of the alveolar process; then loosened teeth, which soon become useless. Notwithstanding, *some* of the would-be knowing ones, scout the idea of magnifying glasses in dental operations. It is my opinion that we would be better Dentists if we would use them more, thereby enabling us to be more perfect in the operation of cleaning teeth. I might well say something upon the cleaning of cavities preparatory to filling, but will not dwell upon it at this time. I have asked how we should clean teeth? Now I will answer, how in my opinion, it should be done. I would first remove all the crusty deposit with as convenient an instrument as possible, taking pains to remove nothing but a DEPOSIT. I would then work upon a SINGLE tooth with a soft stick or cork, together with polishing stones, pumice, calcined brickstone, cotton and chamois skin, etc., until I had succeeded in producing a brilliant polish, which can always be done. Take one tooth and work upon it until you accomplish the desired result. Bring that *one* up to your highest ideal, then examine it under the glass and compare it with the adjoining one,—and if *you* are clean,—the rest may be made so. Some will ask, pray how long a time would one spend? Now if I should answer this question according to the ideas of nine-tenths of the human race, I would say just as long as it would *pay*. Would to God that we might accept the belief that ALL good works never go unrewarded. When we come to this we shall follow in the strict line of duty, and cease to worry about the so-called *almighty dollar*. “The seed of our Heavenly Father never go begging bread.” Since the last meeting of this society I have taken into my hands two cases, and am determined to see what results I can produce. As far as I have gone the results secured are exceedingly satisfactory to the patients and myself. In one case the patient is more than usually particular about trying to keep the teeth clean. I first examined



them by the natural vision, and could see what seemed to be a slight stain at the margin of the gums. I then took my magnifier, and was surprised to see the change; what seemed to be a slight stain, proved to be a calcareous deposit of no small amount. I allowed the patient to look for herself, and she was soon convinced that there was work to be done. I then took an excavator and examined it, and proved by the delicate sense of touch that *a deposit was there*. The labial surfaces and all others the brush could reach, were beautifully polished. This patient insisted that I should spare no pains or expense to put them in thorough order. A great deal of time will be required to produce good results, but we should never let this deter us from doing our whole duty. There are often indentations, that should be removed, because if left they will be the first spots to receive new deposits, and all will agree that smooth surfaces are much easier kept clean than rough ones. Simply removing the deposit is not enough to secure the desired end, for there will be more or less minute portions of foreign matter adhering to the teeth, making a future accumulation more certain; with a perfectly smooth surface the process of mastication will do much to keep them cleanly. Teeth once brought to this polished surface, will be in a far better condition to commit to the patient's care, and the means employed to do this, will be instructing them in the right direction.

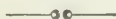
Now will come the oft-repeated inquiry, what shall I use besides the brush? A brush will do much to remove deposits, but there are many reasons why a proper Dentifrice should be used in connection, which are apparent to you all, and should be impressed on the patient's mind.

To go back into the past and rehearse the multiplied list of Dentifrices that have been presented up to the present time, would prove itself too great a task for my time and your patience. Almost a numberless variety have been brought to the notice of the public, and could it have been that half the recommendations accompanying them were

true, our mission would have ceased to be a *mission* any longer. I think we cannot be too severe in crying down the many nostrums advertised upon the curbstones and fences of our cities. If we know what is a suitable preparation let us recommend it, and encourage any respectable member of our profession who is willing to make a specialty of the manufacture of a proper Dentifrice, that we can heartily and conscientiously endorse; with two or three exceptions I have never met with a Dentifrice *circulated* through the country for sale, that had the signature of a responsible Dentist. And doubtless, for this reason, the statements accompanying the preparations were of such a nature that no *decently truthful* Dentist could endorse them. We are all well aware that there is no magic in a proper Dentifrice with which we supply our patients. The simpler the preparation, the better it is for the masses. It is well known that orris root, prepared chalk and castile soap, is a simple and as useful a formulæ when properly prepared, as any we can recommend. I do not believe in putting into the hands of patients without discrimination, cuttle fish or pumice, even mixed with the formulæ just given. But still worse than this, there are some (I trust but few,) who put pumice alone into their patient's hands (*to be used with a brush like a simple Dentifrice*), at their pleasure. Such Dentists, I think, had better go back to first principles and learn their lessons better. Another Dentifrice called charcoal paste, I do not think a proper article to be generally used. I would raise the same objections as with pumice, it is too sharp for the teeth for constant use. I believe it is the general opinion of the thinking portion of our profession that medicated Dentifrices for general use are not needed. The American Dental Association at Boston, last year, denounced in toto the use of mouth washes in any form as toilet articles.

In closing I would refer to the Tooth Tablets originated by our worthy brother, Dr. I. W. Lyon, and I take great pleasure in giving them my most hearty recommendation, as

being (taken as a whole) superior to any thing I have met as a Dentifrice. They contain no magic, but are a simple, safe, neat and very convenient preparation; giving as far as my patients are concerned, universal satisfaction. For my own part, I see no reason why we cannot consistently give them our hearty approval, and as Dr. Lyon is to make this his specialty from to-day, I believe in bidding him God speed in his efforts to clean the teeth of the whole human race.



## THE PREPARATION OF TEETH FOR FILLING.

BY DR. A. P. SOUTHWICK.

Read before the Western New York Dental Society.

MR. PRESIDENT AND GENTLEMEN: I shall not attempt to make any apologies for the shortness and imperfections of this paper, as it was not written until the last moment; but having promised to write something, however short, I thought you would accept a poor paper rather than have me stay at home, which I otherwise should have done.

I regret that the subject on which I am writing (the preparation of teeth for filling) had not fallen into more able hands that could have done it justice; for the subject is full of interest, especially to the young practitioner. For his success in the treatment of caries of the teeth is entirely dependent upon his knowledge and ability to so manipulate as to produce the best results. His teachings should be from the best authority, that he may commence aright; and all his operations should be governed by some fixed rules.

As the limits of this paper and the ability of the writer will not admit of any amount of spread eagle, I shall direct my remarks to the younger members of this association, It is the difficulties encountered in every day practice that most concern them, and wishing to lend a helping hand to the worthy seeking information, I shall give in the plainest

and shortest manner possible a few ideas in the preparation of the cavities most generally found in the teeth.

And in order that we may classify them somewhat, and you follow me the more understandingly, I will commence with the central incisors, giving each tooth some little attention.

In preparing this class of teeth it is very essential that you control the time of your patient as far as may be necessary. You cannot operate without sufficient space, and this can be got in no proper way except by pressure; this can be produced by rubber drawn between the teeth, or what is far better and pleasanter for the patient, packing a small pellet of cotton firmly between the teeth changing it daily, and in from two to four days in most cases, you will have obtained sufficient room.

On removing the cotton the first thing to be done is to place a wedge made of some dense wood, firmly between the teeth above the cavity, this is an important point, and must be done in all cases of approximal decay, this keeps the tooth firm, and also makes a dam excluding the moisture from the cavity; remove with an excavator the soft caries, then with a small chisel trim the margin of the cavity until you have a firm wall both upon the outer and inner surface, beveling slightly from the cavity, that the filling when completed may support the tooth.

With a hoe shaped excavator or the point of a chisel, clean the cervical wall; this is the most essential part of the cavity, for here the enamel is very thin or may be entirely gone, and is the point most likely to be attacked the second time, and in fact is the point where most fillings fail. Then with a narrow pointed hoe or diamond point cut a small groove around and as near the bottom of the cavity as possible; then with a small drill make two pits or retaining points in the cervical wall, and one at the cutting edge, and your work is done. Since the introduction of the Morgan

& Lamm Gold, these retaining points are not essential if the whole cavity is retentive in form.

The cuspid teeth can be prepared similar to the centrals, if the enamel is sufficiently firm: if not, the best way is to cut through the crown or palatial surface, making a compound filling when completed.

In the preparation of cavities in the bicuspid, it should be done with the utmost care; the decay is almost universally approximal and deep seated, extending often under the margin of the gum and beyond the enamel.

In most cases it will be necessary to separate these teeth with a file, sometimes with a V shape, if the teeth are much crowded. The crowns of these should be cut through, making the passage through nearly as wide as the decayed portion.

Great care must be exercised in thoroughly cleansing the cervical wall, and nicely rounding the edges of the cavity along the proximal surfaces. I consider the bicuspid the most difficult teeth in the mouth to save when once the decay has a good start, and with the nicest manipulating and the utmost care they are frequently lost.

The approximal cavities in the molars should be treated much the same as the bicuspid, cutting boldly through the crown, that you may more thoroughly reach the bottom both in excavating and in the filling. A few words in regard to the preparation of cavities in the grinding surfaces, commonly called crown cavities, and I have done, although imperfectly, with this part of my subject.

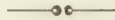
Chisels should be used almost exclusively in opening these cavities and following up the seams to their end, being careful to leave no angles that cannot be filled perfectly; the preparation is very simple, but must be done thoroughly to insure success.

The remaining part of my subject, reasons for annealing gold, is a subject of considerable importance, perhaps more than most of us suspect.



By the constant changes of temperature all bodies are surrounded with a film of moisture, constantly absorbing and throwing off, making it impossible for any two separate bodies to come in perfect contact so long as this state of things exist. By subjecting gold to a moderate heat, this moisture is driven off, and the gold having an affinity for itself, readily unites. This theory is often proved in cases where a patient with a moist breath will entirely destroy a filling, by being allowed to breathe upon it while in the process of manipulating, the gold in the tooth being colder than the breath it absorbs the heat, and surrounding itself with the condensed moisture, thereby destroying its adhesiveness.

In the preparation of gold for filling, we are obliged to handle it, thereby coating it with the perspiration from the hands, which is still more detrimental to the adhesiveness than the moisture from the air; making it all the more necessary to anneal thoroughly. And to insure perfect unity and consequent success, the gold should be kept hot during the process of filling, and worked as rapidly as possible.



## DENTAL HINTS.

BY A. B. ROBBINS, D. D. S.

An Essay read before the Lake Erie Dental Association.

Thinking that a few hints might be of more use in promoting thought and directing some one to a higher style of practice, than a more elaborate essay on some specific subject would be, I have thrown together a few words at the risk of not doing justice to any one subject. Our practice, as well as our lives, are so largely made up of separate or individual action, that we each excel in some particular thing, just as we do that particular something, better than another.

Although I have a painful sense of my own ignorance and imperfections, yet with a ready willingness to learn, I hope to say something that shall at least strengthen the resolution

of some one to attain a greater knowledge of our specialty, and by your discussions, be instructed myself.

But while I give prominence to trifles, let us consider some facts about these trifles.

The grandest architectural structures in the world are made up of small blocks of various hues and shapes. There is a *method* in the shaping of these blocks, each one of which is a small thing in itself, a careful blending of the colors, and not least, a beautiful symmetry of the whole.

Beneath the mass, and essential to its very existence, lies the deep foundation, firm and solid as the living rock. The finished pile ministers to the practical and æsthetic wants of man. It is a blessing to all—a thing of beauty and a joy forever. The education of an accomplished Dentist is made up of comparatively trifling items. The foundation, a good general education, is laid deep and firm, and above it rises, inch by inch the superstructure, whose fair exterior shows harmonious combinations of many forms and hues. Finally, we hail as gentleman and scholar, skillful mechanic, scientific man and artist—the Dentist!

If we shall see, even now, the weak points and faulty places in our foundation, let us take Chicago skill to our aid, put the jackscrews to the work, and hold ourselves as well as we may, until we dig deep, vigorously pile in and secure a substantial resting place for our faith and practice. What I most fear is that the *even now* I speak of, may not appear to us, and we be made conscious of our weakness and need of aid. If we can only see our need, the first great advance has already been made, and I have no doubt of the result. The trouble is to get upon the stand point that will enable us to perceive that there is a field of beauty open to the vision of such as can see. We are daily walking over and in the midst of wondrous facts that are rapidly and rapturously unfolding to the eye of the scientific man, to which others are as blind as bats to the splendor of sunlight. We must endure home-thrusts and conscious probing. When our works are

brought to the focal point and the strong light of truth let in upon them, imperfections stare us in the face. What then is our duty? Is it to go on with such poor results? Shall we not rather strive for higher attainments?

Then what is a good foundation, and what the sure stepping stones to a proper stand point? We all know that the mariner in search of land, leaves the hold of the ship and goes up, not only upon the deck, but even to the top of the mainmast, and then brings to his aid the tried and trusted spyglass. Let us follow his example, and from as elevated a position, take a general view of our surroundings.

The true, sure foundation of the Dental Art and Science is *Anatomy*, well laid upon the substratum of a sound general education. To such a beginning we can add *Physiology*, *Chemistry*, *Therapeutics*, *Pathology*, *Microscopy*, and *Mechanical Art*. To build up such a structure will be very hard for those who have been constructing of the fragments and spawls; harder still for those who have supposed themselves masters, and doing the labor of competent conservators; but let no one rest for a moment from the task of correct building, no matter how low he may have to dig, or how much rubbish remove.

It seems sometimes as if the public appreciation of what we ought to be, was higher than that of many in the profession. That such, however, is not universally the case, we have daily evidence. In a neighboring town, I once saw quite a display of Dental instruments on the parlor table of the hotel. I asked the Dental tyro whether he had many patients. "Oh," said he, "a very good number, *for the fools are not all dead yet.*"

So I often think when I see how many, ignorant of the first principles of our profession, succeed in obtaining a living. I would that we might soon see every one worthy of a good living. And now, with our Dental Colleges in every direction, most Dentists *may* be properly educated and fitted for their calling.

Let us then be up and doing;  
With the heart and head begin;  
Still achieving, still pursuing,  
Learn to labor and to win!

If our birth denies us wealth,  
Lofty state and power,  
Honest fame and hardy health  
Are a better dower.

Then let not an hour's delay  
Cheat us of our due,  
But, while it's called to-day,  
Study, and our work pursue.

I wish to call your attention to my ever recurring theme, *the superiority of the natural teeth*. Some may be ready to exclaim. "Who doubts the superiority of the natural teeth?" I answer, I presume no one; and yet, I ask, do you always prove your faith by your works?" I cannot and need not picture to you the full beauty and uses of a well formed, sound and complete natural *denture*; and yet I wish such a picture were before us, so that not our ideal, but real appreciation of the beauty, strength, position, usefulness and value of a natural tooth might be ever present with us; that we could not *remove or mutilate* a tooth without realizing the destruction we have wrought, the injury and evils entailed. Think you that if the people and the Dentists placed a proper estimate on the teeth, there would be such a suicidal neglect of them? Would we ever hear it said, "I will let my teeth go and after a time have them all taken out, and get a new set!" A remark like this always sends a pang to my heart! I think of the lost beauty, the changed features, the crippled functions of the primæ viæ, the pallor, in a word, the misery and shortened days of such an one.

Now, my appreciators of natural teeth, do you put forth all your efforts to save the teeth that come under your care and treatment? Do you begin with the children when you can, and save the first or temporary teeth, and thus, so far as in your power, secure the correct dentition of the second

or permanent teeth? When the permanent teeth are decayed upon their approximal surfaces, do you fully supply the lost portion with gold or other material, and fully restore the contour? How many still mutilate the molars so that they are no longer grinders, but make them *saw teeth* without setting them in a proper frame for sawing! So too, the other teeth we see daily cut and carved out of their natural shape and beauty.

You will pardon me for making some of my remarks emphatic by using personal pronouns. I do not intend to be personal. I only wish to *hint* at some of the mistakes made in our profession, and am fortunate if I may point out a more excellent way.

I do earnestly protest against the *unnecessary Extraction of teeth*. I do hope that not one of our members will try to improve on nature by *changing the shape of the teeth*, but when it is necessary to remove any considerable surface, will restore the tooth to its natural shape. Do not fear contour fillings; but do not cut teeth on purpose to put in such fillings, especially in the incisors for show. While I like to see teeth saved that have been plucked as brands from the burning, the frail darkened portions removed, and the edges carefully and nicely beveled, the tooth bleached if need be, and then like a precious gem, set in gold, I much prefer to have dental skill called in at an earlier period, before such sad havoc and ruin have become masters of the situation: when the edges and faces of the teeth are intact, so that when the gold has taken the place of removed dental tissue, the *gold* shall be as a precious gem set in dentine, and not the dentine set in gold.

To make myself fully understood, even at the risk of wearying you, I will in a measure restate the case.

The Dentist should first know the constitution, constituents, contents and connections of the teeth, and the contaminations that surround them.

2dly. The pathological condition and the remedy needed.



3dly. He should have the skill and ability to apply that remedy, so that the healed and restored teeth shall be as nearly as possible in their normal condition. I can never regard teeth that have been filed and chiseled to make room, and left with slots and V's, as normal.

Some use the file too much, others not enough. Some fill too full and keep the teeth forced into *new positions*. Others fill too flat and never restore the contour of badly decayed teeth. Some have never learned to articulate crown fillings. When these fillings are too full and the antagonizing teeth strike hard upon them, soreness, and often pain follow.

I know some good Dentists who wedge too much, and insert too many wedges at once: on this point *I can speak feelingly*. Others have never learned the advantage of the wedge. There is a happy medium to which I hope all may attain, and that is the great object of our investigations.

I am compelled only to glance at these important matters, and, as I said, only throw out hints. There is one point, small in itself, but valuable I think, that I will mention. I have spoken of it before elsewhere, but as there may be some who hear me, that have not tried it, I will describe it. It is the use of a shield or guard to prevent the abrasion of the edges of teeth, when removing decay, or correctly shaping approximal cavities; it is especially valuable when the drill is used, the shaft resting against thin enamel. The shield may be made of any available material; paper, tape, sheet rubber, or thin gold plate. I prefer the latter in most places. It is simply bent so as to pass between the teeth, and lap over the face of the tooth with a projecting strip or short handle to be used in retaining it in place while rotating the drill in the adjoining tooth.

You will often see little notches in the edges of the enamel made by the instrument, which the guard would have prevented. It is very important to preserve the outer coating and polish of enamel. When the opening or space between the teeth is small and cannot easily be enlarged, the thin

sheet rubber, or a small ring cut from a piece of rubber tubing, will fully protect the tooth with ordinary care. Permit another hint, if you please. Some Dentists, since the subject of retaining points in cavities for the retention of fillings, has been brought to their notice, have simply drilled small pits in shallow or saucer shaped cavities and trusted to them, instead of making a good shaped cavity, which the condition of the tooth would permit. If you use sharp well tempered cutters, and square edged drills, and then, when circumstances will permit, cut so as to have well defined walls, that you feel and know, will retain well impacted gold, you will have confidence in your operations. When retaining points are needed, cut grooves if possible: but here let me caution against cracking off edges and periling your operation. In all cases, when you can without injury to the tooth, make your cavity *retentive*, without grooves or points.

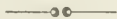
We often meet with teeth that are soft, fibrous, rapidly dissolving, and present genuine specimens of white decay. When cut, they seem rather cartilaginous than osseous: the enamel friable, frequently pearly, sometimes chalky. To properly prepare such teeth for filling and secure hard solid surroundings, would often expose the pulp and destroy the vitality of the teeth. Let me mention a case in point:

A young lady, twenty years of age, called to have her teeth filled. I found them very soft and sensitive; on attempting to remove the decayed portion, I found the dentine almost destitute of solids. I decided not to operate, and commenced treating her to secure the infiltration of lime salts; to my surprise, in two weeks I found the same dentine hardening, even giving off the mineral ring: in two or three weeks more, her general health was much improved, and her teeth were well hardened, or as some would say, calcified. I filled them and feel confidence in the result.

I wished to speak of the result of treatment of the mother, to secure good teeth in the child, and the necessary steps to

secure future development and preservation. I cannot at this time, but hope to do so at some future period.

Active professional duties and the state of my health, have prevented me from fulfilling my intentions, and leave to you only these fragments.



## MICROSCOPY OF THE TEETH.

BY S. P. CUTLER, M. D., A. E. G., D. D. S.

Professor of Chemistry and Microscopy in the Ohio Dental College, Cincinnati, formerly  
Professor of Chemistry and Natural Sciences in the Botanic  
Medical College, Memphis, Tenn.

I have spoken of the process of exodontosis internas as a mixed process, or perhaps more properly, a physiological one; the result of wearing down of dentine, causing injury and wounding to tubuli, and consequently to nerve fibrils; this might be regarded as an accidental cause, and does not happen until the tooth begins to wear.

This wearing causes irritation of filaments, and in consequence a deposit of lime salts betwixt the pulp proper and dentine. This process could not be brought about unless there was an excess of lime salts deposited, that too, outside of the pulp. The salts could get there from no other source save that of the pulp; the pulp then would have to furnish materials for this process. How could this take place except that of secretion through, or rather excretion from the *piumata dentalis*, by a process of osmosis or osmotic action from the capillaries of that membrane, assorting the materials from the blood by a sort of elective affinity, a plus amount of os plasma at the ossified point, ossifying inwards and downwards so as to give sufficient depth to dentine to protect the pulp from the action of foreign bodies and thermal changes (as the dentine is a non-conductor), and from mechanical violence by pressure or springing of the bone down on to the pulp.

As the process advances, the pressure on the pulp from the hardening of the bone causes the nerve to absorb sufficiently to keep out of the way of pressure, which would otherwise take place to such an extent as to cause intense suffering which, however, is the case to a certain extent in certain cases. As has already been said, when this process is too much hurried, death of the pulp takes place from inflammation caused by pressure from without; the remedy is rest until the uneasiness subsides. Whether or not the *dura-mata dentalis* is all carried away by absorption by this process is not yet settled; so it is, there seems to be a bony union more or less complete. In this process the nerve filaments are intact, the ossific process following them down pressing away the pulp. This pulp membrane having openings where the filaments pass through, readily slips down from pressure as the bony matter accumulates around them. As this process is more or less a continuous one, I do not think there is any well developed *dura mata dentalis* covering this new formed dentine; at least, so long as the process is progressive, though the inner surface appears well defined and regular. When this process becomes permanently arrested from any cause, it is reasonable to suppose that there is a membranous covering formed on the new formation, (*a posteriori*.)

At all events these views will answer my purpose until more reasonable ones are advanced to take their places. I do not say that these views are above criticism, or are entirely sound in their logic; but it is a new subject which has had but little light thrown upon it by any one, though it has been written about ere this. See *Tomes' Dental Surgery*, 1859.

The above remarks are not advanced fully as scientific certitudes, but as probable and reasonable hypothesis. The other form of ossification of the pulp cavity that has been spoken of is, I regard it, a different process; depending upon an entirely different cause, and might be regarded as a pathological one

depending on a diseased condition of the tooth, that is, decay. There may be cases where other causes might produce the same condition of things; it might be the result of sympathetic irritation, jars or disease about the alveola, and perhaps other causes not thought of as yet. I have seen this process commenced before the decay had reached the nerve cavity, but sufficiently near to cause slight uneasiness at times; one instance of the latter character came under my own observation recently,—the tooth, an upper wisdom, had given continued, but slight uneasiness for some weeks, did not give pain by probing. On extracting the tooth there was found an ossified portion of one of the fangs which was rather larger at that point. The process commenced near the apex and continued up for a quarter of an inch, filling the canal almost completely, only on one side there being a small aperture past it. This ossification was circumscribed and oval in shape, perfectly smooth and hard, the balance of the pulp normal, not much signs of inflammatory action. There are other cases that have recently come under my observation where ossification had commenced at more than one point, then running together forming an irregular circumscribed region, not in some instances reaching to the pulp membrane. In other instances I have met with cases of molars where the entire pulp was ossified to the fangs, and a short distance in some instances, down them: have not yet met a case where the process had extended down in all the fangs to the apex, though extended observation may in future find this to be the case.

Further observation is needed, as I regard this as a very important point in Dental pathology.

In many instances the setting up or petrifying process commences immediately under the seat of the decay. If this can be regarded as a salutary or saving process, it is but reasonable to conclude that nature or the (*vis medicatrix naturæ*), would commence her reparations at the vulnerable point or point of attack first, and then extend as the necessity



might demand. I would right here inquire, what about killing such nerves, or attempting to extract them. Would it not be advisable under all circumstances, to endeavor to ascertain whether any such process had commenced; if so, to try and aid her in her efforts, rather than to attempt to baffle nature in her salutary intentions.

There is much to learn concerning this important point in Dental pathology; many cases in my judgment might be successfully treated that are being lost.

[TO BE CONTINUED.]



## ZINCO-MAGNESIUM LIGHT.

BY B. WOOD, M. D., D. D. S.

IT is only within the past ten years that the wonderful illuminating power of the *Magnesium Light* has commanded public notice. M. Bussy, in 1830, obtained the metal in sufficient quantity to determine its properties; (Davy had previously proved its existence,) but it remained merely an object of scientific inquiry, until, by improved processes of preparation, it was produced in sufficient amount to suggest its practical application in the arts, when it at once became invested with general interest. To M. Deville of France, who was so successful in the preparation of aluminium, do we owe, perhaps more than to any one else, the placing of this other still more remarkable metal within the reach of art.

In the *Comptes Rendus* for February 23, 1857, M. M. Deville and Caron gave a detailed paper on the preparation of magnesium, being similar to the processes employed in the reduction of aluminium; and also communicated some information respecting the physical characters of the metal not before determined. Its density is 1.75. It fuses at about the melting point of zinc, at a low red heat, and at a little

higher temperature bursts into a dazzling white flame, attended with phenomena observable in the combustion of zinc. Like zinc it is volatile, and at nearly the same temperature. An ounce could be easily distilled at a time.

Shortly after, M. Bunsen of Paris, proposed the employment of the metal in the form of fine wire for illuminating purposes. He found a wire one-hundredth of an inch in diameter to burn at the rate of about three feet in a minute, and give a light equal to seventy-four stearine candles. The light, according to his estimate, is only thirteen times less than actual sunlight. He proposed having the wire wound upon bobbins, and from these paid out to the lamp. Since then, no little ingenuity has been expended in devising and perfecting suitable means and arrangements for utilizing this light; especially for taking photographic views at night, and in caverns and other obscure recesses, for which purpose it is so valuable for its great actinic power; the chief practical difficulty being the rapidity with which the metal is consumed, involving great inconvenience as well as cost.

The *London Photographic News*, in an article urging the claims of the magnesium light over other artificial lights in photogeny, (quoted the *Scientific American* for August 8, 1863,) describes an arrangement then recently devised, wherein "a spool of wire is gradually unwound, the end being pushed horizontally into the flame of a spirit lamp, where it ignites and continues to burn as long as it is fed with wire. It is in this feeding" (it adds) "that the great difficulty has resided."

In the *Druggists' Circular* for January, 1866, we find announced, among the excerpts, the invention, in Edinburgh, of a lamp for burning magnesium, by which, it is stated, "all the difficulties of using this light for streets, public buildings, light-houses, and so on, are overcome." This lamp is described as being "of a character so simple and effective, that all the mechanics are astonished. It is one of those happy ideas that seem inspired, and at the same time make

everybody wonder they had not thought of them. The magnesium is reduced to a fine powder, then mixed with sand; it runs through a tube as from an hour-glass, and when lighted by a match, a brilliant and steady flame is produced until the reservoir is exhausted." The effect of the sand, as in this case, would be to moderate and equalize the combustion.

This, however, does not appear to have met the expectations raised in regard to it, certainly has not come into general use, and the lamps now employed are constructed for burning the metal in the form of ribbon, which is "paid out" by means of a clock-work arrangement. A recent improvement on this plan, is described by A. R. Leeds, A. M., Professor of Chemistry in the Philadelphia Dental College, in the *Dental Cosmos* for April, 1867, in an article on "The Magnesium Light," wherein the author, among other obvious uses, directs attention to the applicability of this light to Dental purposes, as in the illumination of the interior of the mouth, whether for mere inspection or operation. (And it is this "Odontoscopic" view of the subject that has prompted the present communication.)

But notwithstanding the devices of ingenuity, the great inherent difficulty remains, as to the rapid combustion of the metal, as well as the liability of the flame becoming extinguished, as it would seem, by its own violence. When used in the form of ribbon it burns away still more rapidly than in the form of wire, although the flame is more equable, less liable to extinguish itself, and freer from other objections.

This difficulty, however, may in a measure be removed, and some advantages obtained by burning the metal in connection with zinc. It is just about a year ago since I demonstrated this experimentally (on the 4th of July last). Perceiving the practical objection in the way of burning magnesium by itself for illumination, owing to its speedy combustion, etc., it occurred to me that the using of some other metal in connection with it, might be of advantage in

controlling or modifying the light; and from the property of *zinc* to take on combustion at a bright red heat, I inferred that the heat of the ignited magnesium would be sufficient to produce and keep up the combustion of *zinc*, which in its reaction might serve not only to equalize, but also to perpetuate the combustion of the magnesium. Having, accordingly, hammered down a piece of magnesium wire (not having the metal in the form of ribbon at hand), and also a narrow strip of sheet *zinc* to about the same thickness, and pinning the two together with little *zinc* pins, I ignited the conjoined strip in the flame of a spirit lamp, when the whole burned steadily with a bright white light until completely consumed, but more slowly than magnesium by itself, leaving the "ashes" or oxides of both intimately cohering the entire length. A similar strip of *zinc* alone, ignited under the jet of a blow-pipe (though not in the ordinary spirit flame), burning with a greenish blue-white flame for a moment, but only for a moment, requiring to be rekindled each time; I intended to experiment a little more systematically, after procuring some magnesium ribbon of uniform thickness; but other matters called at that moment, (and time flies!) so it was not until reading Prof. Leed's interesting communication that I recurred to the subject.

On repeating the experiment with magnesium ribbon, thickness No. 36 of Brown & Sharps Standard Gauge, pinned to a strip of *zinc* rolled to No. 34, the piece burns slowly, and when held with the *zinc* side up is soon extinguished, but with the magnesium side held up burns steadily to the end. With strips of *zinc* No. 34 on both sides, it ignites with more difficulty and goes out after a moment's burning. but with thinner strips of *zinc* on each side, say about No. 38 (my gauge measuring only to 36), it burns steadily and completely, even better than with *zinc* No. 34 pinned to one side only. Edge up appears to be the best position for burning, when held horizontally. Using single strips of both metals of the same thickness (No. 36), I find the united

“flambeau” to burn from two and a half to three times as long as the magnesium by itself. The zinc alone, when uniformly *semi-oxidized at a red heat, just below the point of combustion*, burns after once ignited until consumed, with a yellowish-white, or sun-like light.

The ZINCO-MAGNESIUM light is of a clear, pure white, hardly distinguishable from the Magnesium light, not quite so intense, however, but milder and steadier. It would seem to possess advantages which, in connection with its greater economy, may render it quite as useful and more generally applicable for purposes of illumination.

ALBANY, N. Y., June, 1867.

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### CANTHARIDAL COLLODION.

WE have recently been using this preparation topically in the treatment of acute Dental periostitis, and with very decided success.

The method of application is very simple. After having dried the surface of the gum about the tooth or root affected, with a napkin or bibulous paper, the application may be made with a camel's hair brush, or perhaps just as well with a portion of cotton or lint upon an instrument; the lip or cheek should be held away, and the moisture prevented from passing over the surface, till the ether has evaporated and the artificial cuticle formed.

Usually within a few moments after the application, the pain ceases, counter irritation takes place at once, and within a few hours blistering occurs, when periostitis is effectually relieved. This preparation has given such prompt and entire relief in almost every instance, that we regard it as one of the very best agents employed in the treatment of this affection. Our experience certainly warrants us in suggesting to the profession to test it. We shall be glad to hear of the results of its use in the hands of others.

It may be obtained of druggists generally.

T.



## NITROUS OXIDE.

LIVERPOOL ROYAL INSTITUTION.

ON Thursday evening, Nov. 21st, the members of the Liverpool Chemists' Association assembled to hear a Lecture from Dr. Waite, Dentist, on "Anæsthesia: Nitrous oxide as a substitute for chloroform and ether," illustrated by experiments. Dr. Waite described several modes of inducing both local and general insensibility to pain, including Dr. Richardson's ether spray, etc., and stated that we are indebted to the Dental profession for the first discovery of a process of inducing anæsthesia. In September, 1844, Dr. Horace Wells, a Dentist of Hartford, Connecticut, was the first individual to undergo an operation, and also to perform operations in the anæsthetic state, and the agent he employed was nitrous oxide gas. This gas when mixed with air was of a very exciting and intoxicating nature, but when breathed undiluted with air it rapidly induced a peaceful and highly agreeable state of repose, accompanied by insensibility to pain. It closely resembled air in its chemical characteristics, and was therefore the most innocent and least injurious agent ever employed. Its administration was not accompanied by any unpleasant results, such as too often attended the use of chloroform and ether, and it had been employed almost exclusively throughout the United States for some two years, in preference to all other agents, and hitherto with none of the fatal consequences to which chloroform was particularly liable. The lecturer claimed for his profession the honor of having conferred a priceless boon upon suffering humanity, by the discovery of anæsthesia, and trusted that we should soon be able to discard the injurious agents now commonly employed, and so free the humane process of operating under anæsthesia from the objections which now attend it. The lecture was well received, and at the close some interesting experiments as to the anæsthetic properties of nitrous oxide were made.—A vote of thanks was passed to Dr. Waite for his instructive paper.

## SAVING EXPOSED PULPS

Is a theme upon which much has been, and more will be written by all classes of Dental writers, from which the practitioner often gains much valuable information, and quite as often the information gained is impracticable, worthless, and sometimes worse than worthless, as patients can testify who are victims of the experiments of Dentists who seize upon them to prove the correctness or incorrectness of the theory Dental writers frequently put forth as some new discovery or valuable information. The old aphorism, "Prove all things, hold fast that which is good;" is sound logic, and Dentists would be more successful and give better satisfaction to their patients, if they would take the old proverb as the text upon which to shape their practice; but proving whether certain theories and practices are correct or not at the peril of their patient's teeth and their own reputation, is a misdemeanor all honest Dentists should beware of.

I noticed in a late number of the REGISTER an article by Dr. Walker, of New Orleans, giving his method of saving exposed pulps. I agree perfectly with him in regard to the importance of saving pulps alive, but cannot endorse fully the material he recommends for the purpose, viz.: vulcanized rubber. That rubber is a non-conductor and has that virtue in its favor, all will admit; but that it is perfectly harmless for the use Dr. W. recommends it, is a question, which I think would induce all, except rubber worshipers, to look upon it as extremely objectionable, on account of the sulphur and mercury in the compound. Query,—if vulcanized rubber inflames the mouth and gums of persons wearing artificial teeth made of it, which we all know is frequently the case, what effect will it have on as sensitive a part as an exposed pulp, which is more susceptible to any contaminating influences than any other part of the system?

My practice has been for the past five years in nearly

every case where the pulp is exposed, to fill over with os-artificiel, being careful not to press the filling too hard on the pulp during its introduction, or it will be liable to produce violent inflammation, and death of the pulp, and likely to result in ulceration. After the material becomes sufficiently hard, I excavate the surplus, leaving just a thin floor in the bottom of the cavity, and complete the operation by filling with gold or tin.

The os-artificiel is one of the best non-conductors we have, and teeth filled in the manner above described, where the pulp is exposed and alive, never trouble the patient in the least when any thing cold or warm comes in contact with them; in fact, I have yet to record the first case where any unpleasantness resulted from this mode of practice, except when first introducing the os-artificiel filling over the pulp, a slight pain is then experienced which seldom lasts longer than from ten to twenty minutes. So far as my experience goes, the pulp seems to contract from the filling.

The idea of filling over an exposed pulp with a plastic material, and the case never troubling the patient, and the pulp remaining in its normal condition, may appear incredible to many; but I have operated in this way so long and so successfully, I am convinced that at least one-half of the pulps that are destroyed, might be saved.

POUGHKEEPSIE, N. Y.

CHAS. L. HOUGHTON.



### INHERITED DISEASES.

IN reading the short article by Dr. Chase on "inherited diseases," and the "W. editorial comment on it," I am forcibly impressed with a fact or two that occurred in my own practice. Mrs. H., a newly married lady, came to my office at the urgent suggestion of her adoring husband, to consult me about the possibility of smoothing the surface of a pitted lower left central incisor tooth, which looked rather unsightly and seemed to annoy her husband greatly. I decided to dress the tooth down and polish it, which was done without

causing much annoyance; a great deal of satisfaction was expressed at the appearance of the tooth after the operation. I heard no more of the case for about seven months, when the husband and now *father* came hurriedly into my office, stating that "*the baby*" had a tooth, wished me to call at his house and examine it, as he feared it was something that might cause trouble. I called in a few days, and on examination found that it was a lower left central incisor tooth, a fac-simile of the one I had seven months before polished for the mother; it had the same pitted appearance.

CASE 2.—Mrs. A., a very robust lady, the mother of three children, called to have some teeth filled. I filled some eight or ten cavities, four of which were very sensitive, and teeth considerably broken off; the crowns were restored with gold, the operation was quite lengthy and painful. About eight months subsequent she gave birth to a healthy boy with four teeth corresponding with those with the large gold fillings in her own mouth. These cases created quite a sensation in their immediate neighborhoods.

I have followed up the advantages thus providentially opened, and try to impress the fact upon the minds of parents that they have the power to transmit *any* physiological condition to their offspring they choose, and trust I will see some good results in the course of time. While I am on this subject, I will state a case or two of a little different character; but I hope of no less interest to the profession. By consulting mothers who have had several children, we will find that they have universally more trouble with their teeth during gestation, and more especially during lactation, than any other period of life.

Mrs. —, consulted me frequently during her first pregnancy, and afterwards during lactation, as she seemed to suffer greatly with her teeth. I would find her teeth very sensitive to thermal changes, and to acids and saccharine substances, and towards the later period of lactation I found her teeth very soft and almost devoid of their earthy substances. In the course of time she became pregnant again,

and the old trouble with the teeth began again. I advised a diet of food containing the greatest amount of the phosphates of lime. I heard but little more of the teeth. I would examine the teeth occasionally, and I found them hard and pearly, and not at all sensitive as before; and in due time she gave birth to a very much larger and more robust child than she had before and with less labor than formerly, and her teeth continued the same pearls during lactation; her child, now three years old, has the most perfect set of deciduous teeth I ever saw, as firm and solid as adamant; the mother is still following the dietetic suggestions of four years ago, and has suggested it to many others with equally good and satisfactory results. What better evidence do we want, that teeth of *adults* as well as in the embryonic or infantile state can be nourished.

WM. O. KULP, D. D. S.

MUSCATINE, Iowa, Dec. 20th, 1867.

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#### DENTAL THERAPEUTICS.

At the last meeting of the American Dental Association, held at Cincinnati, Ohio, there was a committee appointed and instructed to prepare a report on the above subject, and present it at the next meeting of the association.

As a member of this committee I respectfully ask gentlemen of the profession of all parts of the country to communicate either through the Dental Journals or directly to me, any thing they have new on this subject; also, to give their experience with old remedies: give as far as possible your opinion of the *modus operandi* of the remedies you mention. Communications from gentlemen of the medical profession on this subject will be gratefully received.

This committee desires to make as extended and thorough a research on this subject as possible; but the time is short! So brethren, if you will assist us, we will promise you a summary of all that is known by the profession on this very important subject.

On behalf of Committee,

WM. O. KULP, D. D. S.

December 26th, 1867.

Muscataine, Iowa.



## Proceedings of Societies.

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### MEMPHIS DENTAL SOCIETY.

MEMPHIS, Tenn., Oct. 15th, 1867.

SIR:—At a meeting of the Memphis Dental Society, held at the rooms of Dr. W. T. Arrington, on the first Tuesday in September last, and the first anniversary of the society, the following gentlemen were elected to fill the various offices for the ensuing year, viz.:

*President*—Dr. W. T. Arrington.

*Vice-President*—Dr. V. F. Elliott.

*Corresponding Secretary*—S. Hinson.

*Recording Secretary*—Dr. W. D. Tucker.

*Treasurer*—Dr. G. W. Acree.

*Librarian*—Dr. S. A. Smith.

The following gentlemen were appointed an Executive Committee for one year:

Drs. J. B. Wasson, J. C. Harris, and E. W. Sawyer.

At a meeting held on the 17th September, a Committee was appointed to investigate and report upon the status of the St. Louis Dental College, and on the 2d of October the following report was rendered, and received the unanimous sanction of the society.

We the Committee appointed to investigate and report upon the status of the St. Louis Dental College, beg leave to submit the following as our report:

Having made a thorough investigation of the causes that led to its establishment, and the present status of the St. Louis Dental College, feel that it cannot be endorsed by us as a society of Dentists, from the fact that its faculty was not, prior to its organization, regular Doctors of Dental

Surgery. They are a self-constituted and self-graduated faculty, more than one of whom applied to and was rejected by the examining board of the Missouri Dental College. Therefore,—

*Resolved*, That we the Memphis Dental Society, ignore all Dental Colleges which are not represented in the American Dental Association, and would earnestly recommend to all students of Dentistry, who have any aspirations to complete a thorough and regular course of scientific studies, to make diligent inquiries before selecting and entering a Dental college; further,—

*Resolved*, That we do most heartily endorse the action of the American Dental Association, held at Cincinnati in July last, in reference to this the St. Louis Dental College.

W. T. ARRINGTON, *President*.

W. D. TUCKER, *Secretary*.

## Selections.

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**A NEW ANÆSTHETIC.**—Dr. L. P. Yandell, Jr., alludes to a new anæsthetic, the properties of which have been lately investigated by Dr. Smith, of London. He has administered *tetrachloride of carbon* with happy results in a variety of cases. It is inhaled, at intervals, to the extent of a drachm, and though the effect is transient, he has seen relief follow its use in headache, dysmenorrhœa, chronic metritis, and hay fever. He has also used it in labor, and found it a safe and valuable means of mitigating the pains, without apparently hindering the natural efforts. In some cases of labor, it induces a quiet sleep, and removes for a time the efforts of exhaustion of the nervous system. In many respects, Dr. Smith deems it preferable to chloroform—quite as safe, pleasanter to inhale, and producing the effect desired in smaller quantities.—*Atlanta Med. and Surg. Journal.*

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**A NEW STYPTIC.**—An exchange says that the perchloride of iron combined with collodion is a good hæmostatic for wounds, the bite of leeches, etc. To prepare it, one part of crystallized perchloride of iron is mixed with six parts of collodion. The perchloride of iron should be added gradually and carefully, to prevent the evolution of excessive heat, which injures the collodion. The composition, when well made, is of a yellowish red color, perfectly limpid, and produces on the skin a yellow pellicle which retains great elasticity.

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**HERMETIC SEAL.**—A mixture of gelatine and glycerine is liquid while hot, but on cooling it becomes solid, retaining considerable elasticity and toughness. The neck of a bottle dipped into this melted compound is covered with an air-tight cap, which can be made as thick as desired by repeating the operation.

GLYCERINE IN THE ARTS.—A German chemist, named Pusher, of Nuremberg, reported to the Trades' Union of that place that he had met with great success in using glycerine together with glue. While generally, after the drying of glue, the thing to which it is applied is liable to break, tear, or spring off; if a quantity of glycerine equal to a quarter of the quantity of glue be mixed with it, that defect will entirely disappear. Pusher also makes use of this glue as lining for leather, for making globe frames, and for smoothing parchment and chalk paper. He also uses it for polishing, mixing wax with the glycerine, and using it as an underground for laying on aniline red color. The red was found to excel all others in which the glycerine was not used. The glycerine has also some properties in common with India rubber, for it will blot out pencil marks from paper, so as to leave no mark whatever. A paste made of starch, glycerine, and gypsum, will maintain its plasticity and adhesiveness longer than any other known cement, and does therefore recommend itself for cementing chemical instruments and apparatus used by pharmacists.—*Journal of Applied Chemistry*.

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STRANGE CAUSE FOR SUICIDE!—That suicides have been committed for much worse reasons than are given by the actor in the following case, is no justification for his committing the rash act. We trust that none of our readers will study the relationship so deeply as to tempt them to follow the example of the unfortunate Titusville man.

“Some time since it was announced that a man at Titusville, Pennsylvania, committed suicide for the strange reason that he had discovered that he was his own grandfather. Leaving a dying statement, explaining this singular circumstance, we will not attempt to unravel it, but give his explanation of the mixed-up condition of his kinsfolk in his own words. He says: ‘I married a widow who had a grown-up daughter. My father visited our house very often, fell in love with my step-daughter, and married her. So my father became my son-in-law, and my step-daughter my mother, because she was my father’s wife. Some time afterward, my wife had a son; he was my father’s brother-in-law, and my uncle, for he was the brother of my step-mother. My father’s wife—*i. e.* my step-daughter had also a son; he was, of course, my brother, and in the meantime my grandchild, for he was

the son of my daughter. My wife was my grandmother, because she was my mother's mother. I was my wife's husband and grandchild at the same time. And as the husband of a person's grandmother is his grandfather, I was my own grandfather."

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**INTERNAL USE OF CHLOROFORM.**—Dr. Bogue described before the Chicago Medical Society (*Chicago Medical Journal*), the effect of a teaspoonful dose of chloroform, administered in sweetened water to a strong Irishman, for severe colic pain in the abdomen, after five  $\frac{1}{8}$ -grain doses of morphia had failed to give permanent relief.

Immediately after taking the chloroform, the patient suffered a severe pain in the stomach for half a minute, when he commenced panting violently, laughing, and talking wildly. He then lay upon the bed, continuing to laugh and talk about three minutes; at the expiration of five minutes more, he was fully anesthetized. For about fifteen minutes, his breathing was slow and stertorous; pulse descending from eighty to forty-eight beats per minute; the veins turgid, lips and face purple.

Sinapisms were applied to the abdomen, and heat to the feet. The pulse and respiration became quite normal in a few moments. Slight vomiting occurred, when the patient slept quietly for nearly an hour and a half. On awaking, he remained entirely free from pain.

Other members gave very favorable reports regarding the effect of chloroform internally administered in cases of nausea and pain in the abdomen.

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**EFFECTS OF ALCOHOL ON THE SYSTEM.**—Dr. N. S. Davis (*Chicago Medical Examiner*), in a series of sphygmographic observations in regard to the above, has concluded, in the first place, that the presence of alcohol in the blood diminishes the rapidity of nutrition and disintegration, upon which depend the functions of elimination, calorification, and innervation. In other words, alcohol is a positive organic sedative instead of a diffusive stimulant. In the second place, the alcohol itself acts in the system exclusively as a foreign substance, and as such is ultimately excreted or eliminated without chemical change.



## Editorial.

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### / LEGAL.

WE hope our professional brethren in the State will bear in mind the important work they now have in hand, viz.: the securing legal recognition and protection, and appreciate the importance of immediate action. Let the petitions in their hands be immediately filled with signatures, and information given to all whom it may concern.

There is no doubt that by prompt and concurrent effort on the part of the Dentists in the State, the desired law could be obtained in one month. Then let all take hold at once and accomplish it, and not have the matter hanging fire as it has hitherto done.

Kentucky will certainly succeed this winter in obtaining such a law, and very probably several other neighboring States, and shall Ohio who took the initiative in this matter lag behind, and suffer the ill consequences of other States preceding in this work? Professional brothers, your reply to this, I trust, will be by deeds.

T.

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### MEETINGS OF SOCIETIES.

THE regular meeting of the Mad River Dental Association was held in Xenia, on Monday, December 24th, at the office of Dr. Geo. L. Paine.

The meeting was well attended, and fully enjoyed by those present; various subjects were discussed, and in such a manner as to show that improvement and progress is being constantly made. The discussions upon the question, "What conditions and circumstances modify the results of operations upon the teeth?" was very interesting indeed, and called forth a train of thought that by many was not before clearly apprehended.

This Society is one of the most active in the State, always meets promptly and has a good attendance. It was one of the first to act promptly and squarely up to the enforcement of the Code of Ethics, and by that act added much to its prestige and organic strength.

The next meeting will be held in Hamilton in April, when we confidently expect to see the largest meeting it has ever held.

T.

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THE annual meeting of the Ohio State Dental Association was held in Columbus, Dec. 24th, during the day and evening.

The attendance was not large,—the time was not favorable, owing to its proximity to the holidays,—yet the meeting was a spirited one; much business was transacted, and several topics pertaining to practice were discussed.

It was resolved to industriously labor for the procurement of a law regulating Dental practice in the State. The necessity for such a law is becoming more and more apparent every year.

By the action of the Association, the course pursued by the Executive Committee, in the defense of the profession against the unjust claims of the Goodyear Dental Vulcanite Company, was most heartily approved, and the committee were requested to press forward in the defense, as in their wisdom shall seem best.

By resolution the semi-annual meeting was suspended, and it is understood that hereafter the society will hold only annual meetings, when it is supposed the attendance will be much larger, and perhaps in the aggregate quite as much business accomplished as by two sessions annually.

T.

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### INTERESTING.

WE give place to the following items, feeling that they contain matter of gratification to the profession.

The statements of Drs. Berry and Smith are worthy of attention, they having made thorough test of the new material.

In the U. S. Court on Monday last, in the case referred to below, the complainants finding themselves nonplussed, asked for further time for preparation, and the hearing for infringement was

fixed for the 20th of February next, at which time the Executive Committee hope to be able to fully sustain the interests of the profession; and the Committee trust that the profession will sustain them in this contest, and promptly too, and not, now that things look bright, withhold that aid and assistance which is absolutely necessary to success. T.

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**LEGAL CONTEST WITH THE DENTISTS.**—A motion was made in the United States District Court in the cases of Goodyear *et al.* vs. Taft, Berry, Smith, and seven others, for a preliminary injunction, based upon the late decision of Judge Nelson in the Vulcanite case. The defendants replied that they had abandoned the Goodyear compound, and were now using a rubber prepared by the Porter Manufacturing Company, under the patent granted to Edward L. Simpson, October 16, 1866. Affidavits were filed to prove that this compound contained only two and a half ounces of sulphur to a pound of rubber; the minimum fixed by the Goodyear patent being four ounces. Upon the day appointed for the hearing, both parties appearing, the complainant's counsel withdrew his motion, and abandoned the application for an injunction in all the cases.

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**A WORD RESPECTING RUBBER.**—Having used all the different preparations of Dental rubber in the market, I take pleasure in saying, that after about six weeks exclusive use of the "Improved Dental Rubber," manufactured by A. R. Hale, under Simpson's patent, issued October 16, 1866, I am highly gratified, and prefer it to any I have seen.

The Simpson rubber requires more heat or longer time than the Goodyear for vulcanizing. If the "Directions for Steaming" accompanying the Simpson gum are followed, it is of a lighter shade of color than if steamed a shorter time; but as I regard this of little importance, I run up the mercury to 330 or 335, and steam from fifty to fifty-five minutes. Of course the necessary time may differ in different vulcanizers according as they differ in preventing escape of steam.

167 Race street, Cincinnati,  
January 6, 1868.

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A. BERRY.

**EDITORS REGISTER:**—Feeling it a duty for all members of the profession to call attention to improvements in Dental work, I would say that I have been using the rubber made by A. R. Hale, under the Simpson patent, and find it equal to the best and superior to most of the rubber used for Dental purposes; and would advise all Dentists to give it a trial, and think they will be highly pleased with it.

H. R. SMITH.

## OBITUARY.

AT a regular meeting of the Albany and Rensselaer Co. Dental Association, held at Troy, N. Y., December 10th, 1867, the following preamble and resolutions were adopted :

WHEREAS, It has pleased the Almighty Ruler, in his wise providence, to remove by death from our midst Dr. D. F. Benne and Dr. Robert Nelson, both of Albany; therefore be it

*Resolved*, That in the death of Drs. Benne and Nelson, this Society has lost two valued members, much beloved and highly appreciated by us for their great skill and zeal in the interest of the profession.

*Resolved*, That the citizens of Albany and vicinity have sustained a severe loss in the death of these gentlemen.

*Resolved*, That to their immediate friends this Society tenders its respectful and cordial sympathy, and that these resolutions be published in the Albany and Troy daily papers and the Dental Journals, and a copy, signed by the President and Secretary, be presented to the families of the deceased.

Drs. H. H. YOUNG, J. C. AUSTIN, W. F. WINNE,  
*Committee on Resolutions.*

W. F. WINNE, *Secretary.*

S. D. FRENCH, *President.*

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AT a meeting of the Students of the Ohio College of Dental Surgery, to take action in reference to the death of one of their best members, Alfred A. Sears, M. D., of Mount Carmel, Illinois, the following resolutions were unanimously adopted :

WHEREAS, An allwise Providence having seen fit to remove from among us, after a short and painful sickness, our fellow student, A. A. Sears, M. D., therefore,—

*Resolved*, That in the death of Dr. Sears, the Dental profession has lost an able and conscientious member, and the college an indefatigable student.

*Resolved*, That in his death society has lost one of her noblest hearts, and his friends a soul that was devotion and truth.

*Resolved*, That we the Students of the Ohio College of Dental Surgery, deeply sympathize with his bereaved parents in this the sad hour of their affliction.

*Resolved*, That a copy of the above resolutions be sent to the parents of Dr. Sears, to the Jefferson Medical College of Philadelphia, and to the Editors of the REGISTER for publication.

R. J. O. MAHONEY, *Secretary.*

R. H. LAWRENCE, *Chairman.*

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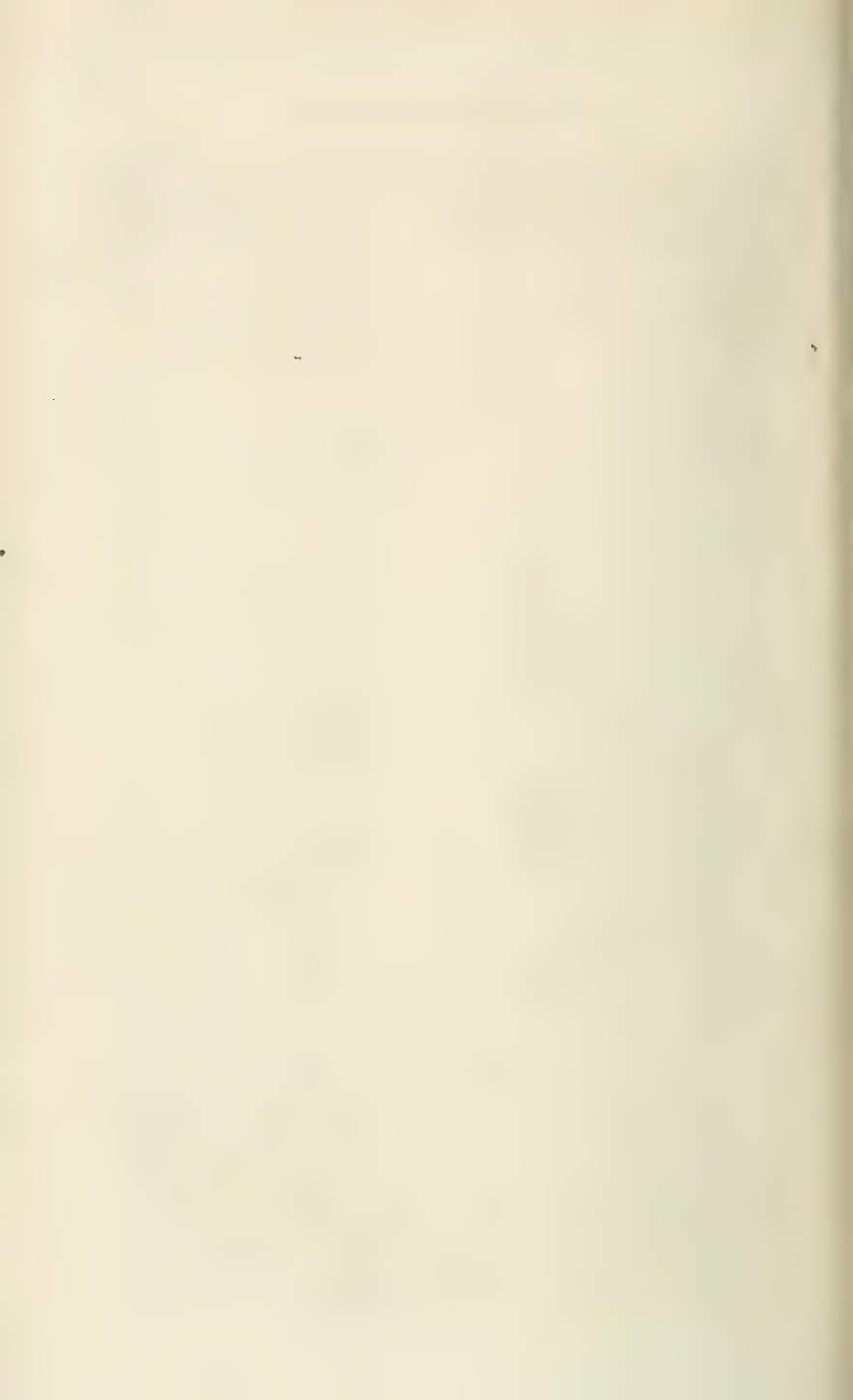
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